

# WIRELESS WEEKLY

Broadcast Programmes a Week in advance

VOLUME 12

Registered at the G.P.O., Sydney, for  
Transmission by post as a Newspaper

NUMBER 35

Hello  
the  
"Hello  
Man"



Friday, December 21, 1928 Price Threepence





"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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No wonder, for dance music is not mere syncopation with a Philips Speaker—you hear the *individual* instruments, each sparkling with life as if you stood beside the player.

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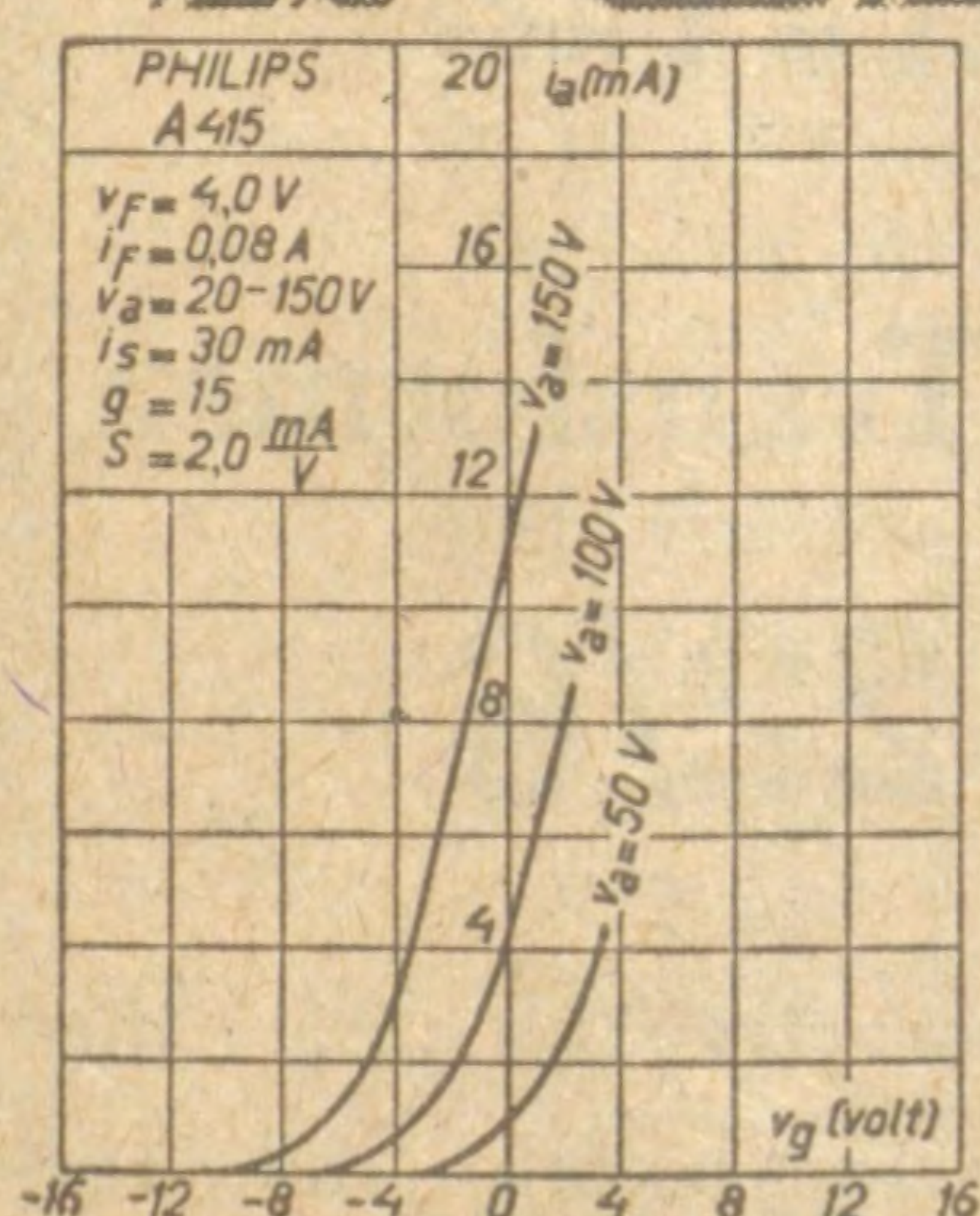
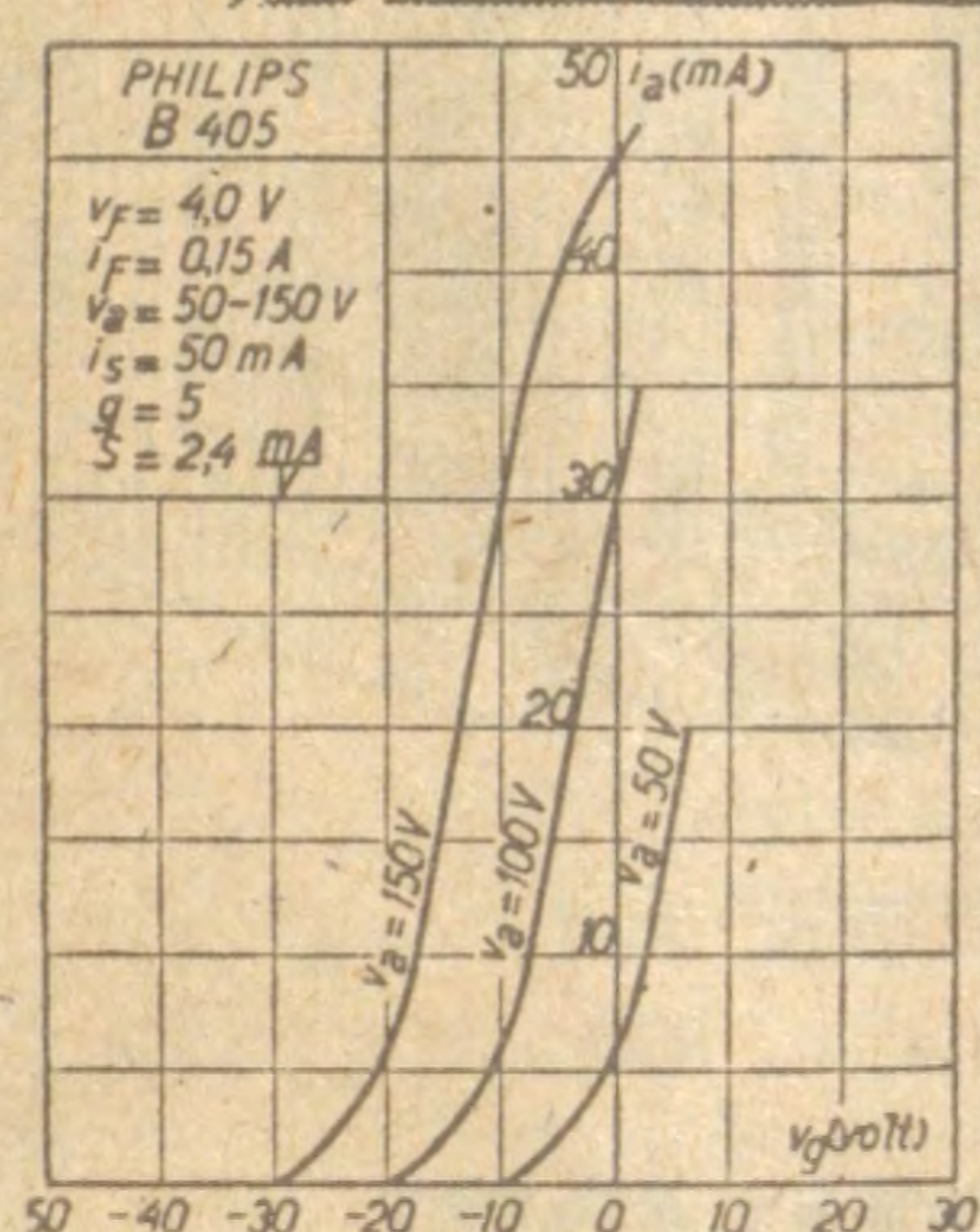
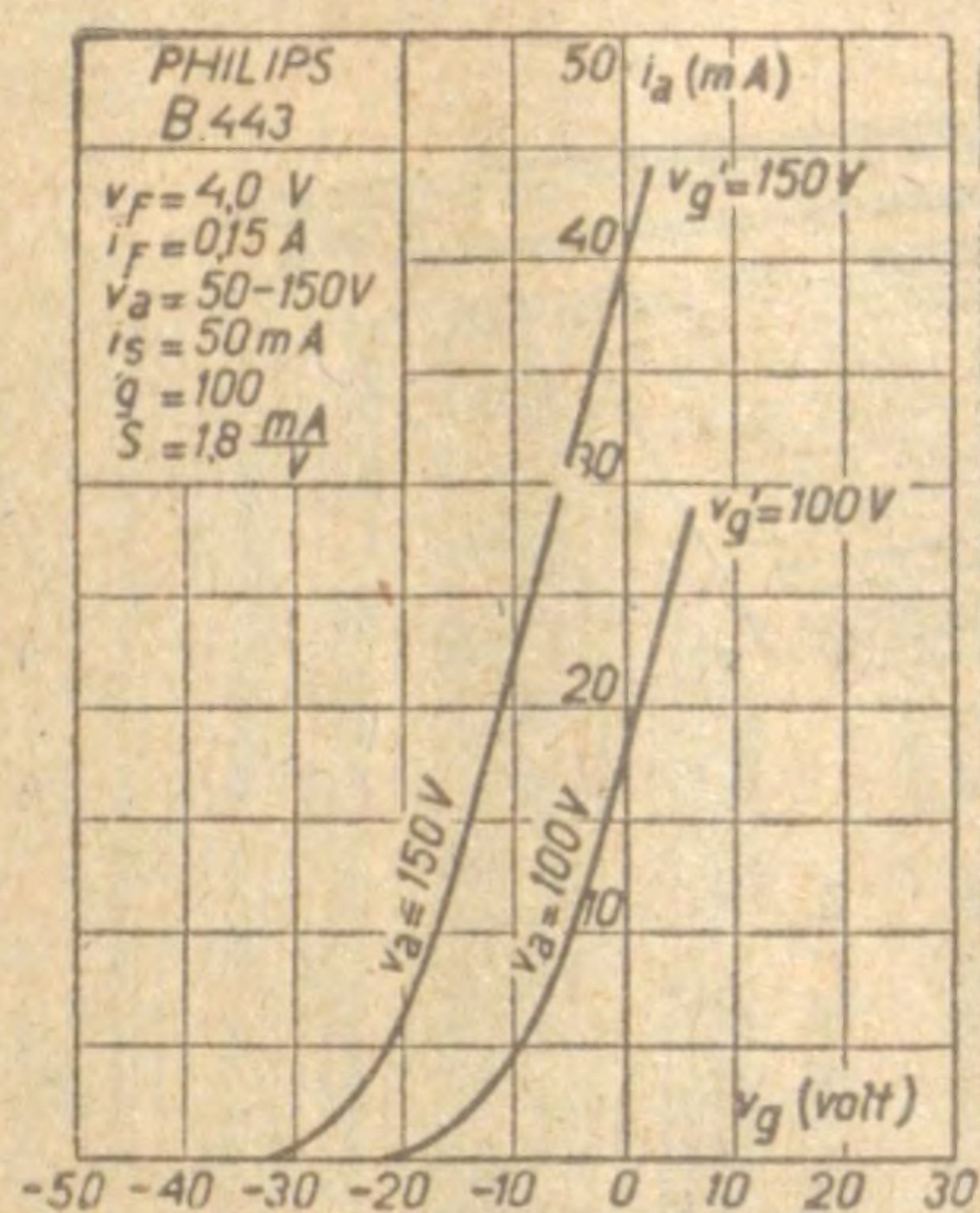
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# PHILIPS

## LOUD SPEAKERS





PHILIPS  
B 443

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# PHILIPS

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Look at the slopes of Philips "Miniwatts." Some of them you will see are as high as 2.4 mA/V. Compare their figures with corresponding types of other makers . . . . .!



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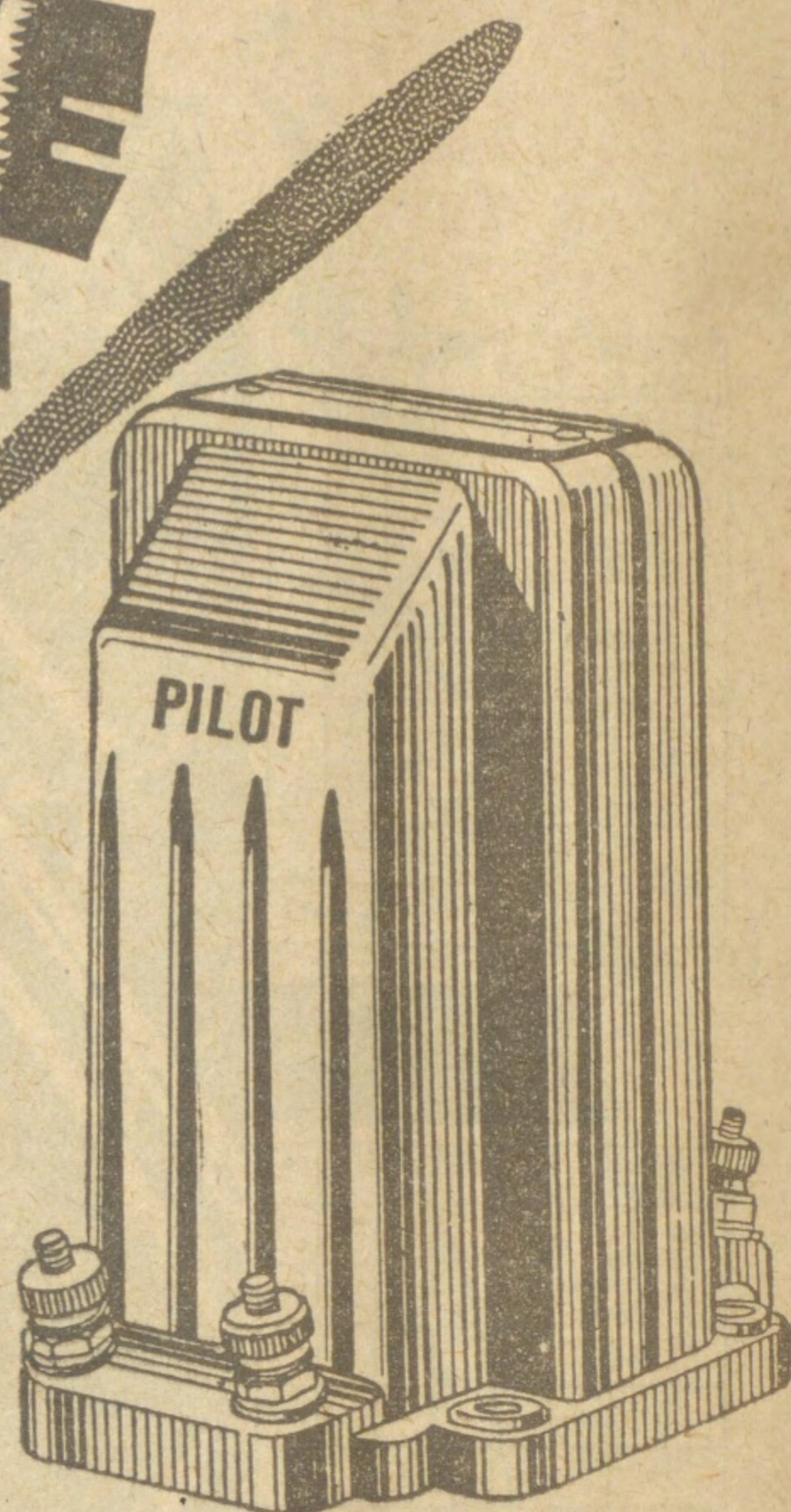
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No. 391

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



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# WIRELESS WEEKLY

VOL. 12, No. 35.

FRIDAY, 21st DECEMBER, 1928.

## Christmas News

OUR Christmas greetings will take a very definite form in the next issue of "Wireless Weekly."

With our seasonal compliments we will also welcome readers with the finest number we have ever produced. This is a big statement to make, remembering that "Wireless Weekly" history extends back nearly six years, and has seen many fine issues. But we believe our oldest readers will agree with us when they see it. Not only will it be enlarged, better printed, and better illustrated, but it will be the most attractive, interesting, amusing, and informative.

To begin with, Mr. Knock will introduce a new short-wave receiver he has been experimenting with, which out-performs all those excellent circuits he has designed in the past, and yet is simple to handle and easy to build. Our "Radio Information Service" will be even more extensive and interesting than usual. We also begin a highly interesting series of articles on the most elementary explanation of radio phenomena possible. Our experience is that no text-book has yet explained radio in a simple manner.

Mr. Allsop will also contribute an article of unusual interest. He has designed a new receiver, to operate over all wavelengths, from 15 to 500 metres, the specifications and directions for which he will lay down. The receiver is a simple one to make, and cheap for the performance it gives. The circuit employs a Detector and Penthode valve.

So much for the technical readers. The general broadcast reader will have an equally interesting budget of features. Brightly-written interviews, amusing studio stories, topical news and comments, short-wave programme notes, and a new and entirely novel competition will be included. But, most important feature of all, we plan to publish the results of a series of television experiments—the first made in Australia. Looking-in to 2BL!

Our best news, however, is that this is not a special number, but merely the first of the new series of "Wireless Weekly."

"Radio in Australia and New Zealand" will be incorporated in the new "Wireless Weekly," and readers will have the advantage of the well-known and unique features of that journal. A progressive policy, embracing the present form of both papers, has been laid down, and "Wireless Weekly" will be conducted in a manner which should enlist for it not only the reciprocal good wishes of its present readers, but thousands of new subscribers. It is planned that every issue shall exceed the previous issue in interest.

Watch for the new "Wireless Weekly." On sale Christmas Eve.

WIRELESS WEEKLY



# BETWEEN YOU AND ME AND THE MICROPHONE

## Brought up to Radio

MISS FRANCES ALLSOP graces our front cover this week. Yes, the amazingly young Ray is her father—as no doubt you inferred from the masterful way she handles the set.

## The Thread of Circumstance

MRS. ALBERT LITTLEJOHN lectures on "Citizenship" for the 2BL Women's Sports Association. "Women," she said the other day, to illustrate the passing of the independent home—"women no longer spin their own yarns." Upon which a tired-looking little man in the corridor remarked that this was because they were always listening to other women's. He may have been Irish.

## What's the Date?

INCREDIBLE as it may seem in these days of calendars, country newspapers and wireless, there are still folk in Australia who haven't the faintest idea what the day of the month is. Requests have been received by the N.S.W. Broadcasting Company, Ltd., that in addition to letting listeners at frequent intervals know what the time is, announcers should also mention what day of the week it is, and the month. This service would doubtless be of inestimable value to those who are perhaps apt to forget what day their income tax falls due!

## O Glorious Art!

A PLAY over the air from No. 1 Studio; a band rehearsing in No. 2; and a quartet allowing various broken melodies to escape from the rehearsal room. Enormously impressed, we went in to hear the band. The clarinets were doing their utmost; the enormous double-basses were shaking the building, and the cornets sang clearly above the storm. The piece drew to a close. The

band stopped. "We shall be on the air in five minutes," said the conductor. "What are we playing first?" asked a bandsman. What, indeed? Would it be Wagner? Would this magnificent array of shining instruments break into the "Ride of the Valkyries?" The conductor considered the matter carefully. "I think," he began, then stopped to scratch his head. "Yes, I'm sure!" he announced at last. "We'll play the tiddley one first!"



## Archbishop's Prayers

UNIQUE in the history of broadcasting were the special prayers conducted by the Archbishop of Melbourne at the studio of 3LO each evening during the critical illness of his Majesty the King. Never before has a broadcasting station been called upon for such an urgent and earnest purpose, and the playing of the National Anthem by the 3LO Orchestra, at the request of the Archbishop, and the prayers offered by him, caused a profound impression with hundreds of thousands of listeners scattered all over Australia, who devoutly and silently joined with him in his earnest and solemn efforts.

## Back Chat

FOR "surprise" items on an English broadcasting programme it



Horrors at Mme. Tussaud's Waxworks Museum."

has been suggested that the microphone broadcast the cross-chat at the speaking tube in an hotel kitchen when theatre suppers are being ordered, also "the unearthly silence of the Chamber of

## THE MON AT HAME

Sma' need there is tae gie 't a name—  
This hooswife's curse—the man at hame,

Wi' noucht tae dae but fill his wame  
Frae dawn till dark;

Aye pokin' roun', wi' nae mair aim,  
'Twad seem, than that o' makin' game  
O' a' oor wark!

But load owre sair for back tae bear  
The Fates ne'er lay on humans here.

An' sae, when blackest oor despair,  
Maist deep oor woe,

There cam, like answer tae a pray'r  
Tae soothe the lion in his lair,  
Frien' 3LO.

Nae mare ma man at hame's a pest;  
He listens in—an' a' is rest

An' peace. An' 3LO I're blessed,  
As ye'll dae yet.

Sae, hooswives, if ye're owre oppressed,  
Jist gie him what thir lines suggest—

A listenin' set!

That star-marked bargain? Let it wait,  
Or let some ither wumman hae 't.

A set ye maun hae, sune or late;

Sae tak' the hint.

What's better than tae hae him quate?  
Awa' ye gang, an' buy yin straight—

There's soun' sense in 't!

—"Jock."

## Radio Play

1st Announcer: My throat's gone!

2nd Announcer: My brain's gone!

1st Announcer: Cheer up, old chap; it doesn't matter. People don't seem to think we need brains here.

2nd Announcer: They certainly speak of us as though we hadn't any.

1st Announcer: Anyhow, if we did have any brains we wouldn't be here.

2nd Announcer: That's conclusive. (They lie back in their comfortable armchairs and smoke thoughtfully.)

## A Case for Freud!

"WHAT could I have eaten?" asks a 2BL correspondent. "I do not generally dream, but last night—I stood in a darkened studio, whilst undecanted spirits floated round me, and a sepulchral voice said: 'We want you to describe to listeners the entries received for the spring races to be held at Canterbury. The entries are to be found on that blank sheet of paper. PROCEED!' I had just concluded another dream that I had been created Archbishop of Canterbury. Was this a continuation or an antidote? I wot not. However, I found myself suddenly enveloped in a mantle that must have belonged to some former victim, and the blank sheet of paper became a clearly-printed page, which I will quote now from memory. 'The following entries have been received by the secretary for the Jocular Club's meeting to be held at Canterbury on 1st April next. The first race on the card—the Announcers' Trial (three and a half hours, between 8.0 and 11.30)—has produced these well-known performers:—

"Mr. Vern Barnett's 'Light Fingered,' by 'Lost Chord' from 'Octave,' Trained by Scales. Ridden by C. Sharp.

"Mr. Cochrane's 'Hello Man,' by 'Microphone' from 'Bylo.' Trained by Peter Rabbit. Ridden by Dicky Bird.

"Mr. Basil Kirke's 'Climbing Fish,' by 'White Man' from 'Helio Lizzie.' Trained by Hector. Ridden by Alky.

"Captain Stevens' 'Cheery Voice,' by 'Loyalist' from 'Nigeria.' Trained by Kitchener. Ridden by Silas Friend.

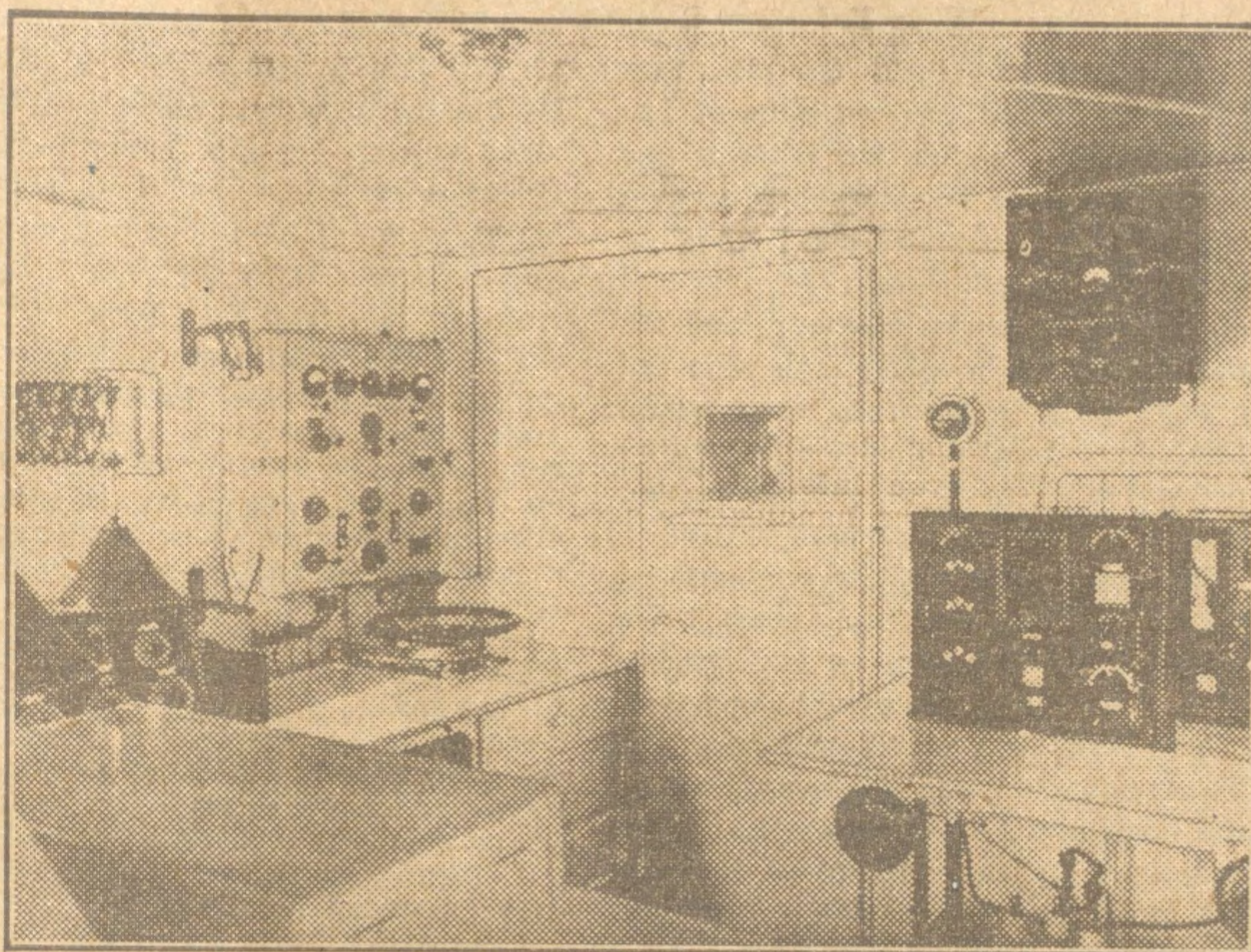
"Mr. M. A. Ferry's 'Accuracy,' by 'Observation' from 'Cclors.' Trained by Years. Ridden by A. Prentice.

"A fine lot, I thought, and when their weights appear I will tell more of their chances. But, good Heaven! they were waiting for the description of the race! I strove desperately to speak, but my tongue cleaved to the roof of my mouth. 'I—I want to tell you . . . I will now tell you . . .'

"Under the shower I decided wireless was a wonderful thing—at a distance."



# A Trans- Atlantic Zeppelin Service



*From this room, crowded with radio apparatus, the three operators on the Graf Zeppelin sent out thousands of words of press despatches and obtained innumerable compass reports. The transmitter is at the right and the direction finder is at the left.*

*But for the service rendered by radio the Graf Zeppelin, which recently crossed the Atlantic, would never have reached its destination, according to our correspondent who contributes the article below. The proposed trans-Atlantic Zeppelin Service planned for 1929 will depend almost wholly on radio for navigation direction.*

**D**R. HUGO ECKENER, commander of the "Count Zeppelin," the huge dirigible which recently made a trans-Atlantic flight, joins other aviator-navigators in attributing part of his success to the service rendered by radio.

The "Count Zeppelin," it is stated, will inaugurate a trans-Atlantic freight and passenger service next year. The huge ship, as large as the largest ocean vessel afloat, in her trial crossing met with many difficulties.

Were it not for the radio on the huge dirigible, says Dr. Eckener, it would have been as isolated from the rest of the world as the people on a lonely island in mid-Pacific. Her progress and safety would have been shrouded in a veil of mystery, and events that transpired would have been revealed only when the ship reached her destination. In the event of disaster she would have been helpless to plead for the aid that was ever available.

Wind is the greatest enemy of the dirigible. To combat this enemy Dr. Hugo Eckener and his navigating officers employed the wireless. During the entire voyage they almost momen-

tarily knew prevailing wind conditions within 500 miles of them, so that a course could be followed which would minimise danger and increase speed. So vital was the weather data to the Zeppelin that nearly sixty hours of the voyage were consumed by the radio staff in obtaining this information alone. It practically monopolised the wireless, and press messages containing hundreds of words, together with personal messages of the utmost importance, were laid aside and delayed.

A million words were intercepted by the huge craft's radio men, and another million or more were flashed to ships at sea and all corners of the globe. No giant trans-Atlantic liner ever handled such traffic, considering the length of the voyage. For hours at a time the radio power was never shut off. If schedules were not maintained on one definite wavelength, then they were carried out on some other, in order to reduce the great interference that was frequently prevalent.

A thousand ships in the North Atlantic, Mediterranean Sea, and elsewhere attempted to establish communication with the Zeppelin, but only

a small percentage met with any marked degree of success. The wireless officers were too busy with official business or weather reports to answer. In order to discourage public messages, so that full time might be given to local questions, the Zeppelin's radio tax was twenty-four cents—six times as much as charged on any liner. Operators at sea were requested to refrain from calling or speaking to the airship unless it was for urgent weather data that was requested.

After the departure from Friedrichshafen coastal stations along the American coast listened intently for her signals, eager to establish direct communication or maintain close watch over her progress. Such vigil, though, was really a safety precaution, that any word of distress could be immediately intercepted and aid despatched.

Naval stations and ships at sea and commercial stations along our coastline frantically attempted to establish communication almost from the minute of her departure from Germany, but apparently with faint success.

Continuous direct communication was impossible, the dirigible encoun-



tering much annoying atmospheric disturbance and local trouble that greatly affected the working of her transmitters, which were built and installed by the Telefunken Company. There were certain handicaps on board the dirigible that did not exist on board an ocean steamer, and for this reason the wireless men were not always able to work as they would like. Such local difficulties frequently prevented them from communicating with a sighted ship or land station.

Dr. Hugo Eckener, her commander, stated in the American press: "The whole thing is really an experiment, even the radio on the Graf Zeppelin."

The New York representative of the Telefunken Company, commenting on the huge airship's radio outfit, said it compared with equipment on many of the latest and largest German liners, but that the operators aboard encountered difficulties that greatly hampered the efficiency of the set.

There are two separate sending sets aboard the Graf Zeppelin, the main transmitter, used mostly for long-wave work, having an output of 175 watts. The smaller or emergency set was rated at 70 watts, with a daylight range of 200 miles. The larger sending set was capable of sending on wave-lengths ranging from 576 to 2800, with a daylight range in excess of 1000 miles.

Power for both transmitters is derived from wind-driven generators, which on frequent intervals during the epoch-making flight failed to function with the proper degree of efficiency, which interfered with operating services. The emergency power, consisting of a bank of storage batteries having a capacity of ten hours, as deemed necessary by the German marine authorities, were charged by another wind-driven generator attached to the side of the airship near the cabin. For some reason or other no power for the radio equipment was supplied by the dirigible's own motors, and unless the Graf Zeppelin was travelling at a fair rate of speed for ships of her type the wind-driven generators failed to function.

Commander Rosendahl, a passenger aboard, commenting on this point, said:—

"The power supply should come from some other source than wind-driven generators, in view of the importance of radio on such a flight."

The receiver aboard was in three separate sections, either of which

could be employed by simply throwing a conveniently located switch. Detector and two-stage amplifier were used, plate voltage coming from the usual B batteries. Section 1 had a wave length range of 300 to 800 metres; section 2 from 400 to 4000, and the remaining one 3000 to 25,000. Traffic with foreign coastal stations was conducted mainly over the 600 and 900 metre band, and with American stations either on 2100 or 756, but mostly on the higher wave-length, in order to eliminate interference from nearby stations, which already greatly limited their possibilities.

Both transmitting sets were of the tube type, arrangements being made to use voice, if necessary. A short wave outfit was carried for experimental purposes, but because of the tremendous volume of traffic handled was never used. It was really installed to maintain communication with foreign and American amateurs.

Like many trans-Atlantic steamers, a direction-finder was installed, and was used considerably in finding the

exact position of the dirigible during foggy or cloudy weather when the usual sun sights could not be taken. At least a dozen times a day positions were obtained through this medium.

That the transmitter aboard the Graf Zeppelin was able to cover great ranges was amply illustrated by its direct communication with Nordeich, at the mouth of the Elbe, until the airship was half way between the Azores and Bermuda. Never was the dirigible out of touch with the land. Liners 2000 miles to the northward were easily able to maintain schedules for the relaying of press and personal messages.

The giant airship handled only a small fraction of the traffic that was addressed to it. Hundreds of ships at sea were eager to offer weather reports, congratulatory messages, or made requests regarding progress; while towns and cities on both sides of the Atlantic invited the crew to social events. However, the radio was too busy with weather reports or the direction-finder.

## Should Cricketing Fixtures be Broadcast

SOME comment has been caused by the discussion of a suggestion recently made that a cricket association should restrict or prohibit the broadcasting of sporting fixtures. Readers' opinions expressed in the daily press naturally show that the proposal is not popular. The opinions obviously would, in the main, be those of interested broadcast listeners. The subject is worth examining. The interest taken in the discussion is at once an indication of the popularity of sporting items in broadcasting programmes, and evidence of the manner in which the new service is invading the domain of older services. In short, it shows the advance of the "novel stunt" of broadcasting, as it was termed but a very few years ago.

Broadcasting is a community service, if, indeed, it is not a public utility. All sections of the community, young or old, look to it for some information, instruction, or entertainment. Some there are who do not care a rap for sport; some want only religious services; others want jazz, and plenty of it; while sections not to be overlooked rely on broadcasting for information, for education, and for matters of general interest.

Thus, it is that the theatre, the church, the school, the markets, the bureaux, and the sporting fields find a new avenue for interesting their particular adherents as well as the general public. And none of them can afford to say, "We will not let this be broadcast;" they cannot adopt a dog-in-the-manger attitude. Similarly the newspapers, the musical entrepreneurs and the sporting promoters will not be

able to stop the broadcasting of matter which the listeners want. The march of progress cannot be stopped.

Not that broadcasting is likely to render those institutions of less utility or attractiveness; it is not likely to put the newspapers out of business, or reduce the attendances in church or at sporting meetings. On the contrary, it is calculated to be of value in giving publicity in quarters where it has not been felt previously. It will be complementary to other methods of publicity—not competitive. Already in Melbourne 3LO has been the means of interesting many people in sport and other matters, who otherwise would not have been attracted to the events. And the large volume of correspondence from all parts of the Commonwealth testifies to the interest taken in sporting descriptions and results by listeners.

One must not overlook the fact that the sporting promoters are entitled to some consideration. As with the owners of music they have something which cost much to produce, which the broadcast listeners want, and it is only common justice to claim some reasonable recompense. That is about all that can be said, however, and it is a totally different thing to prohibiting or severely curtailing the broadcasting, either in form or volume.

Generally, the Australian experience is that sporting bodies are sufficiently public-spirited to listen to public demands, and are always willing to be influenced by "sweet reasonableness." That being so, there is no fear of retrograde steps being taken.



# Inside History of 2BL's International Short-wave Relays

*At last Mr. Allsop himself tells of his record short-wave achievements. In this article he recounts how he rebroadcast through 2BL the famous KDKA relay, PCJJ, 5SW, and many other far distant stations, including the Southern Cross transmission.*

By RAY ALLSOP (Associate Technical Editor).

I HAVE been requested on many occasions to describe the method for relaying oversea stations, and readers, I am sure, will be interested to know a few of the details of some of the pioneer relays in Australia.

A great number of listeners have asked me what type of receiver I used for this work, and have expected the description of some super-sensitive breed, with strings of valves and gadgets. This is not so.

## 1924 RELAY OF KDKA

THIS was the first relay of an oversea transmission by any station in Australia, and the longest distance relay, at that time, ever attempted. KDKA was received on a simple three-valve regenerative receiver. I did not have a direct line to 2BL, so had to requisition the use of a telephone from a friend of mine living a few doors down the street. There is quite a humorous side to this relay. KDKA had been putting out transmissions on 60 metres every evening for one week, and, the reception being practically perfect up to the Thursday, I conceived the idea of putting some of this reception over 2BL for crystal users, to give them the delight of reception of America. The matter was mentioned to the manager of 2BL, with a view to having a line connected to my station, then situated at Coogee—practically on the same location where 2BL now stands—but the management of 2BL were a little dubious about the success of the venture, and refrained from going into the expense of running a line into my station. Saturday arrived with still good reception of KDKA, and this the final day of their test transmissions. I was determined to try the relay out, so ran about 300 yards of flex over the back fence across a vacant allotment to my friend's house, and made connections with his telephone. Then all excitement waiting for KDKA; 'phoned up 2BL, tested, and all ready to put on the air; then more excitement. The Randwick Exchange objected to the 'phone line being used for this purpose. After a brief delay this matter was fixed up, and the first relay of an oversea station was put on the air in Australia. The result was certainly a little more distorted than that of the present day, but still fairly good.

After this a line was run to my sta-

tion, and means were devised to improve the transmission over the land line, etc. In 1926 2BL was removed to Coogee, practically at my back door, which put my own station out of action. The result was my gear was dismantled and packed away until a suitable location could be selected.

## THE 1927 RELAY OF PCJJ

IN April, 1927, PCJJ came on the air.

This relay was carried out from a flat in Coogee at 3 o'clock in the afternoon, with a receiver completed at noon the same day, and a wire strung along the back pathway for an aerial. The same night WGY was relayed. These two relays were of the best, and compare very favorably with those recently carried out. It was certainly a thrill when Europe was heard, but would it not be a greater thrill to hear London? Why not get PCJJ to relay 2LO London? I made the suggestion to Mr. Den Hertog, the Sydney manager of Philips Lamps, Ltd., who immediately saw my point, and cabled PCJJ. I must pay a tribute to Mr. Den Hertog, of the Philips Company, for his generosity in giving me all the help possible. A cable was received from PCJJ, stating that they would relay 2LO. I had 24 hours to erect my station, to receive the transmission and it was decided to try out Roseville, with a view to making this a permanent location for my experimental station. The loan of a vacant house was requisitioned from a relative, and the receiver was installed in the laundry of this house, a sixty-foot aerial being slung on short poles about 12 feet above the fence.

I have spoken of thrills—well! the greatest thrill I have ever experienced was to hear the words, "London and Daventry calling" on that Saturday morning—the event I had looked forward to for many years had taken place! The reception that morning was excellent, the description of the Davis Cup match from Leeds being crystal clear.

Listening to the relay from 2BL one cannot help remarking on the wonderful work carried out by PCJJ, when it is remembered that the longest distance to be bridged was from Eindhoven to Sydney, and the PCJJ transmission was a relay from a station another 400 miles away in Great Britain. The result of this test was so

satisfactory that my experimental station was located at Roseville permanently.

It is amusing to note that the receiver which had operated so well at Coogee and Roseville in these tests was termed the "Super Laundrydyne," as all these receptions were carried out in a laundry.

PCJJ subsequently transmitted regularly and were relayed through 2BL, Paris, London, and Langenburg, Germany. The Queen of Holland delivered a special message to her subjects in all parts of the world.

By this time, and when 5SW commenced his transmissions, my receiving station had become well established.

## SOUTHERN CROSS RELAY

ANOTHER relay worthy of note was the transmission of the Southern Cross signals, while the plane was in flight from Honolulu to Suva, and from Suva to Brisbane. This reception was carried out on the same three-valve receiver as used for the first relays of PCJJ.

I think the best relay ever put over by 2BL was when we recently transmitted speech from a station located in Paris, France. The signal strength was so great that I could hear movements in the studio at Paris, and side talk between the announcers.

Now for a brief description of how the relays are technically carried out. For a good relay the static conditions must be good, and then a receiver suitable for the conditions and signal strength received must be used. This receiver must be stable, easily controlled, and must possess the best of audio frequency amplification, not necessarily volume, as all we require is a good 'phone strength. The output of this receiver is then taken to a transformer, having an output impedance to match the land line to the Control Room of the broadcasting station. One will realise how stable the receiver must be, as once the station is tuned in, and the relay commenced, the receiving set is seldom controlled.

The modern method of receiving oversea short-wave stations is to use spaced aeri-als—that is, a number of receiving sets several miles apart, the output of each receiver

(Continued on page 31.)



# 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.

## MORE FOX-TROTS, PLEASE

Dear Sir,—With regard to this so-called high-class music we are getting from our local stations, I am of opinion that we are getting far too much classical stuff. The average listeners like something lively; but even our dinner music session is crammed full of classical numbers. One gets fed-up with hearing "The next number to be played will be another classical number, etc., etc." Personally, I consider it a waste of good "juice" listening to such stuff. Hoping to hear a few more fox-trots, etc.

Yours, etc.,

L. HAMILTON.

Auburn.

## PIM AND PAM PASS BY?

Dear Sir,—I would like to support Mr. F. W. Reynolds' letter in "Wireless Weekly," November 7. Are there many who want Pim and Pam records? If so, of course, they have to be supplied; but I would like to see their side of the question in your paper.

Yours, etc.,

JOHN G. BURGETT.

Baltimore.

## ULTIMAX RESULTS

Dear Sir,—Having built the Ultimax Three ("Radio," October), I thought you might be pleased to hear reports from outback. No doubt the reports have always 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 it's absolutely the best set I've ever heard or used. I've no trouble to log 2BL, 2FC, 3LO, 3AR on loud speaker strength during the afternoon, and sometimes in the morning, and good headphone strength every morning. This is with the mercury up about 112deg. Wait until the winter comes. Oh! boy! I can log the New Zealand stations in the evening; also 7ZL comes in well at night, and JOAK and JOBK roar in at night (late).

I've made the slight alteration to the primary as instructed in the article. Speaker strength would be R5 here during daylight. I've made a slight alteration to the article—I've built the set—case and all—of aluminium, and connected all to earth. To my way of thinking, it seems to work better. Let's hope you continue to do good work.

Yours, etc.,

BOX 333.

## NO TALENT!

Dear Sir,—You ask for grouches: but you don't have to ask me. Mine comes naturally, so to speak. What I want to know is: Why are we getting all these inferior artists on the 2BL and 2FC Radio Eisteddfod? Everybody is complaining about them. Sometimes whole hours of the programme are taken up by incompetent amateurs, whose one idea seems to be to annoy the listeners-in, who can't raise a hand to murder them, and who can't even have them painlessly poisoned in their sleep (although I think this might be possible with a little forethought).

It is not as though these annoyances have the interest of novelty. My right-hand neighbor's daughter can do more permanent damage to Schubert in one evening than all these out-of-tune sirens, whose business seems to be mistake-making, have done since they have been left alone with an unprotected microphone; while my left-hand neighbor and his wife can knock all the out-of-drawing sketch artists for a row of rotten oranges. My neighbor just over the road—but I won't worry you with him.

All I have to say is, for heaven's sake, give us some amusing and interesting stuff. I, as a listener-in, don't care twopence for finding new talent. If they want to find new talent let them find it first, then let me hear it. There is no necessity for them to bore me, after a long day's work, by making me listen to artists who plainly have no talent at all.

Yours, etc.,

DERIT.

Collarenabri.

## STUDIO SERVICE.

Dear Sir,—In reference to having church services broadcast from the studio instead of a church. I hope the present system will still be maintained, as so many listeners derive great comfort from them; but they would not have the same feeling if the service were broadcast from the studio. A certain section tried to have fewer church services broadcast some time ago, but lost their vote. Now they are trying to have the church services broadcast as they would a play—from the studio. The next step will be to try and stop it altogether; but I think we will all have a say in that. Tune in to 3LO, etc.—they all have their church services. Are we to be the only ones

to break away? Church services are only once a week—not like so much sport broadcast during the week, but nothing is said about that. A church is the proper place to hear the church service—not a studio. All my friends are against it, and say if this idea is carried on it will mean fewer licenses to be paid for.

Yours, etc.,

M. THOMAS.

Leichhardt.

(There is no truth in the suggestion that the N.S.W. Broadcasting Co. intends to replace the present religious services with studio dramas. Our correspondent has not unnaturally been misled by the largely false impressions conveyed by a section of the press.)

## A COUNTRYMAN'S SUGGESTIONS

Dear Sir,—I wish to make a few suggestions for the betterment of programmes. To most country listeners, especially farmers, the news and talks on agriculture are of great interest, and the time between 7.15 and 8.30 is the most suitable to hear news, etc., as during the summer months people in the country work late.

Now, from 2BL the news is given at 6.30, and 7.0 from 2FC. It would be much better if one of these stations gave the news between 7.30 and 8.0. During the morning sessions the news is given at 8.15 and 8.45. Why not have it all at 8.15, so that there would be no waiting by listeners? A lot of time is wasted between items of news by 2BL. Why not have everything ready, instead of looking for it when the time comes?

Every Saturday, at 10.45, G. J. Lockley gives a talk on gardening. Now, at this time not 5 per cent. of those interested would be listening in. This talk would be much better at 7.45 p.m.

A wireless talk every week would be very helpful. From 2BL, on November 28, at 4 p.m., a wireless talk was given. Now this is a ridiculous time to give such a talk to be of any service.

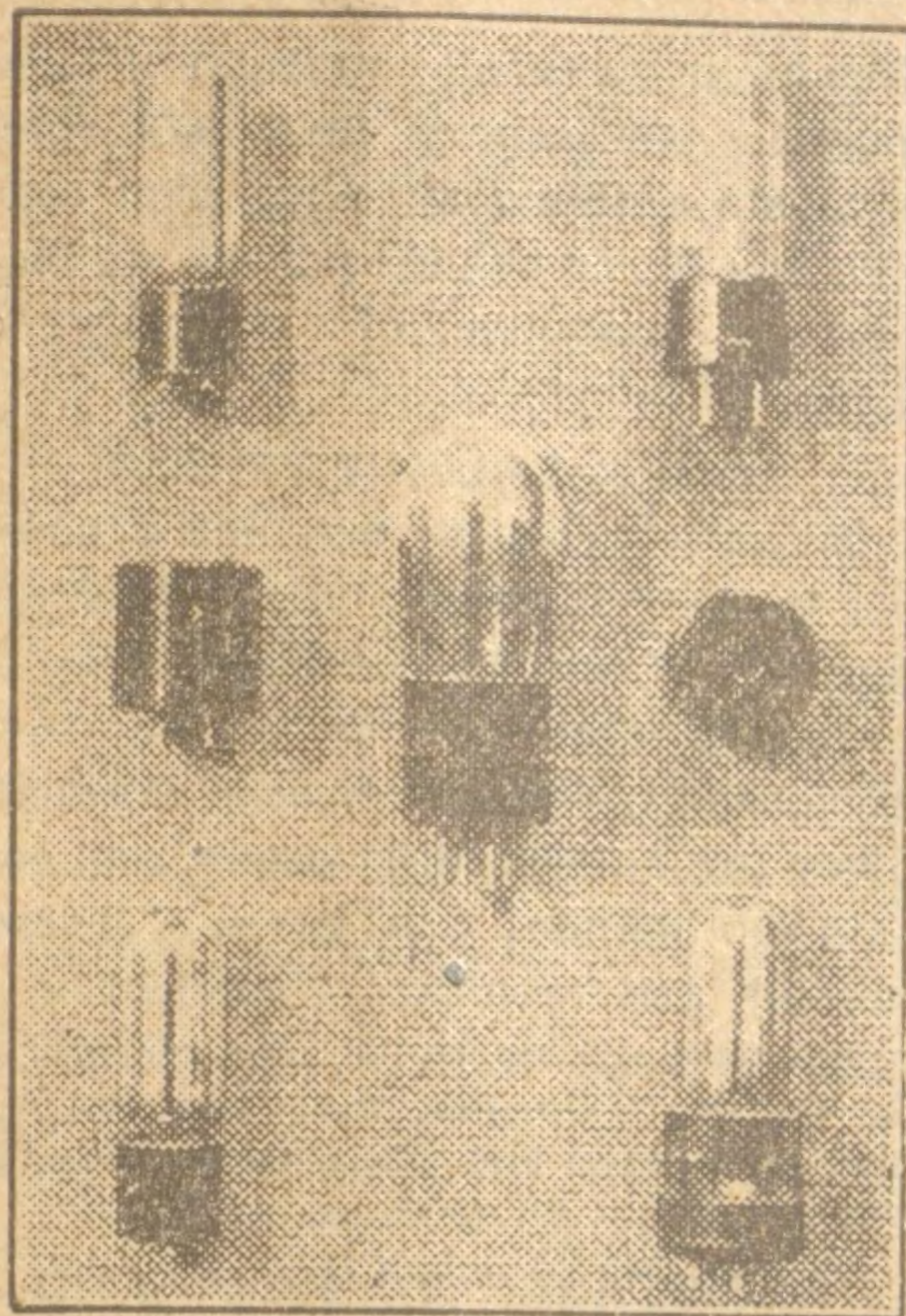
Now, 2BL and 2FC, make your motto "Service," and look to the needs of country listeners, instead of filling in time with advertising nonsense and H.M.V. records.

Yours, etc.,

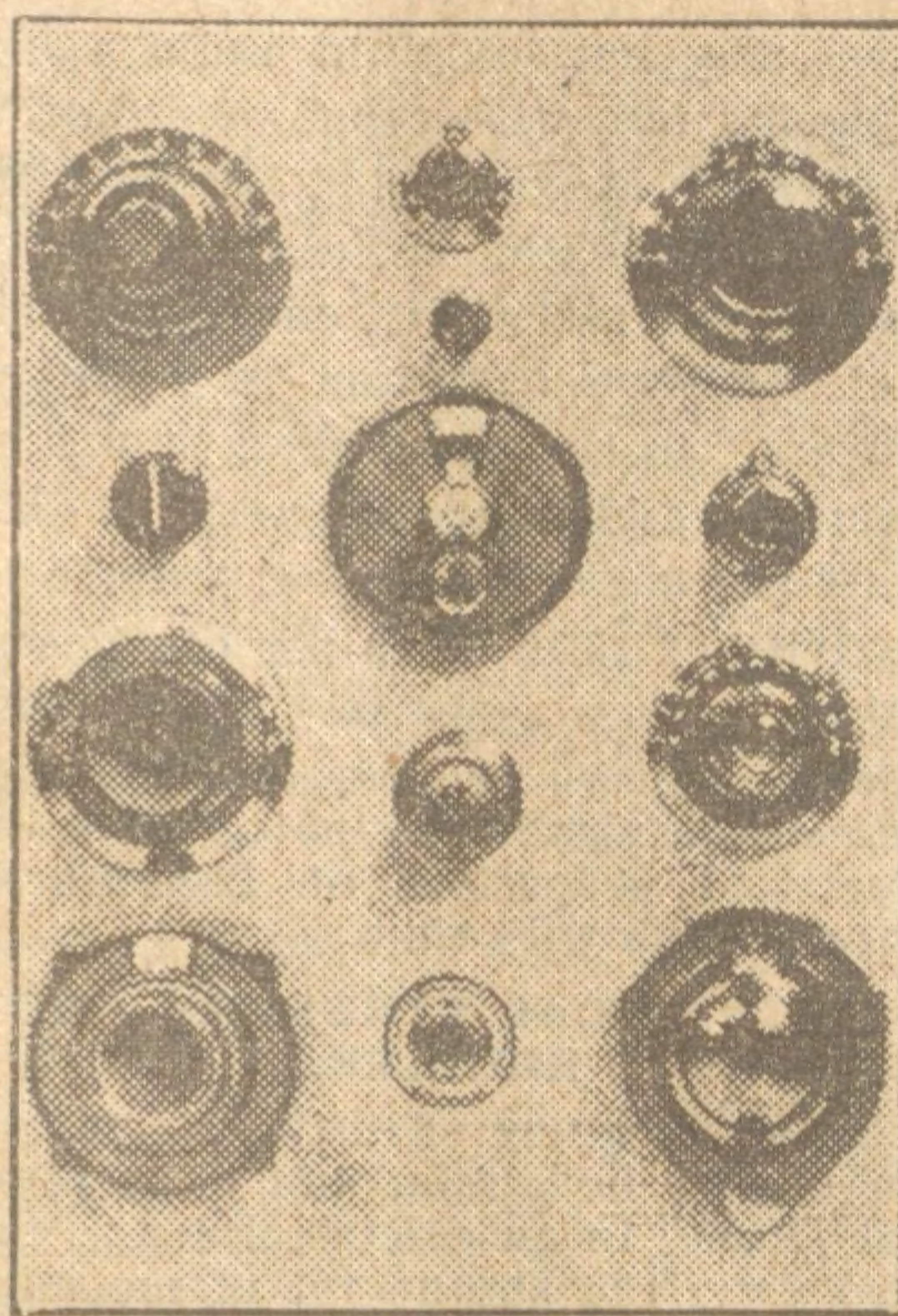
R. M. RUSSELL.

Tanja, via Bega.





Valve Bases of Bakelite.



Condenser Dials of Bakelite.



Loud-speakers of Bakelite.

# BAKELITE

IN seeking to determine what materials were best suited to the needs of radio insulation, early radio manufacturers conducted extensive tests. It soon became evident that the type of insulation which was especially needed should possess properties which were not available in wood, fibre, porcelain, shellac, rubber, glass, and the other serviceable substances which had ordinarily been relied upon. The synthetic phenol-resin products, sold under the trade-mark Bakelite, conformed most nearly to this exacting specification. Their combination of desirable properties made them especially adaptable to radio service.

The initial resin—which is the basis of the several phenol-resin products sold under the trade-mark Bakelite—results from the interaction of formaldehyde and phenol. Reacting at suitable temperatures, these two chemicals yield a new chemical substance which is a clear, amber-hued, resin-like solid. In this first stage it can be melted, and will dissolve in solvents such as alcohol and acetone. Further application of heat, with pressure, advances it to a further chemical stage at which it becomes permanently infusible and insoluble. The importance of this peculiar change may well be emphasised. The properties of the resin in its initial stage permit of its being dissolved and fused, and variously adapted to industrial processes; while its later transition to a strong, insoluble, and infusible substance renders it peculiarly serviceable for a great variety of applications, many of which cannot satisfactorily be met by any other material.

## BAKELITE LAMINATED.

The laminated form of Bakelite is used in radio for front panels, sub

*No material is more extensively used in the manufacture of radio components and in set construction than Bakelite. This article explains the nature and wide variety of uses of this compound.*

panels, coil forms, insulating bushings, etc. It is manufactured by a number of companies under special license and is sold under the well-known trade-marks: "Dilecto," "Fibro," "Formica," "Micarta," "Phenolite," and "Spaulding Bakelite." In the manufacture of the laminated materials, sheets of paper or cloth are first impregnated in a solution made by dissolving the initial Bakelite resin in a suitable solvent. The solvent is then evaporated, and when the sheets have been thoroughly dried, they are piled one upon the other, and are subjected to heat and pressure in hydraulic steam-heated presses. The product of this operation is a strong rigid plate, with lustrous surface finish. It might be likened to a slab of mahogany or ebony so far as its appearance is concerned. A dull mat finish can be produced by rubbing with pumice stone and water. Bakelite panels are also capable of very attractive decoration by the printing of scenic effects in gold, silver, copper, and other metallic hues.

The laminated product is not moulded to intricate shapes, but can be readily drilled, tapped, and other-

wise machined. It can be knurled, embossed, and stamped, using ordinary equipment. Band and circular saws, such as are used for vulcanised fibre, will give equally good results with Bakelite sheet. Ordinary taps and dies make very good threads; a little oil being used. For drilling holes of small diameter the drills should be operated at about 1200 r.p.m. Bakelite panels are appreciably stronger and more rigid than those made from other materials in equal thickness, and hence can be drilled without splitting or chipping around the edges. For punching Bakelite sheet, a plain punch and die should be used. Pieces of greater thickness should be roughly blanked out and finished in a shaving die. Hot punching at about 230deg. F. is recommended.

## BAKELITE MOULDED.

Moulded Bakelite finds many uses in radio equipment—valve sockets, condenser ends, rheostat bases, potentiometer bases, dials, knobs, ear-phone caps, loop frames, loud-speaker horns, etc. It is a bit difficult to realise that such parts are usually made complete in a single operation, which requires only a very few minutes.

The Bakelite moulding materials from which these parts are produced are made by incorporating the original Bakelite resin with various filling ingredients, such as asbestos and wood flour. Suitable pigments are employed to produce various color effects. Thorough sifting, grinding, and mixing make the powder homogeneous in appearance and uniform in quality.

Bakelite moulding materials are sold only by Bakelite Corporation, and are supplied to the moulding trade as materials fully compounded and ready for



use. They are made in accordance with definitely established formulas—an assurance that they possess uniformly specific properties. In the moulding operation this powder is poured into steel moulds—conforming to the shape of the piece desired—and a pressure of about 2000lb. per sq. inch, at a temperature of 350deg. F., is applied. The first effect is a fluxing of the charge, causing it to fill out all portions of the mould cavity, thereupon a chemical reaction occurs, completely converting the plastic mass to the hardened, finished, final product. A few minutes after it enters as powder, Bakelite comes from the mould as a completed object, exact in every detail, and ready for use. Metal inserts can be accurately embedded during the moulding operation, an advantage which is similarly offered by no other material. No machining, polishing, or other finishing operation is needed.

#### PROPERTIES.

A material which is well qualified by its electrical characteristics, but is lacking in the equally necessary properties of mechanical strength, chemical inertness, and general stability, cannot qualify as a thoroughly effective insulating material. While high insulating values are essential in all radio insulation, there are other characteristics, both chemical and physical, which are of equal importance.

In order that the reader may logically appraise the relative advantages of Bakelite insulation, the discussion of properties will be classified according to the following points, which constitute the standard by which insulating materials are rated.

1. Insulation resistance.
2. Mechanical strength and rigidity.
3. Chemical inertness.
4. Resistance to heat and moisture.
5. Durability.

#### INSULATION RESISTANCE.

An effective insulator must offer a high resistance to the passage of electric current. Bakelite—both in laminated and moulded form—because of these qualities, has found exten-

sive use not only in radio equipment but in a wide range of electrical apparatus in general. Its high dielectric strength, surface resistivity, and volume resistivity, ensure reliable and sensitive operation in radio receivers. In the panel stock it has an average dielectric strength of 650 volts per mil of thickness; volume resistivity of 10.12 ohms per centimetre cube; surface resistivity 10.11 ohms per centimetre square. In this connection it should be noted that the electrical properties of Bakelite do not diminish with time.

#### MECHANICAL STRENGTH AND RIGIDITY.

To be properly effective, an insulator should be strong and enduring—not merely in an electrical sense, but also from the standpoint of mechanical strength. Bakelite products are recognised as the strongest in the field of moulded plastics. The increased strength of the resin in its final stage, together with the reinforcement provided by fibrous filling materials, makes the moulded product shock-resisting and dependable. The laminated stock, embodying reinforcing layers of fabric, is made in varie-



Valve Sockets of Bakelite.

ties having a tensile strength of 18,000 pounds per square inch. Compressive strength on such material often exceeds 40,000 pounds per square inch, and a modulus of elasticity of 1,500,000 is typical.

#### CHEMICAL INERTNESS.

Bakelite products will not deteriorate in their physical and chemical properties. They do not fade, discolor, craze, or crack under the influence of sunlight, dampness, or salt sea air. They are uninjured by ozone, and contain no sulphur to cause "surface bloom" and resultant electrical leakage. Organic solvents, and chemicals in general, do not mar the surface nor penetrate the body of a Bakelite part.

#### RESISTANCE TO HEAT AND MOISTURE.

Bakelite materials do not melt at any temperature, and they can be exposed to temperature up to 300deg. F., or even higher, for brief periods, without danger of charring. The setter builder can therefore solder connections without fear of damaging the panel mounting. Moreover, their resistance to extremes of temperature enables Bakelite panels to withstand the summer heat without warping or changing shape.

Parts made from phenol-resin materials are non-hygroscopic, that is, they will not absorb moisture from the air. The importance of this factor in the maintenance of insulation resistance is obvious. Moreover, high humidity does not impair the original color or surface lustre of Bakelite panels and moulded parts.

#### DURABILITY.

Perhaps the outstanding requisite in all really good insulation is durability. Tests made on Bakelite parts, ten years old, showed no change in properties other than a slight increase in hardness. The fact that the electrical properties of Bakelite products remain constant gives them a decided advantage over some insulators which, after a few months, show discoloration and disintegration, which result in a large decrease in surface resistivity.

## Radio Variable Resistors Find Many Non-Radio Applications

WHILE it may be true that radio borrowed many devices from other fields in the early days of improvisation, to-day radio is lending many of its own devices to other fields. Quite recently the precision variable resistors developed for radio purposes have found important applications in other directions, even in the handling of great power, which is perhaps the highest recommendation that can come to any variable resistor.

The most important non-radio application of radio variable resistors is

in the matter of motor speed control. Recently, such radio variable resistors as the power clarostat, and also the heavy-duty clarostat, have been adopted for the speed control of small motors, particularly for small motion picture projectors. The power clarostat, with special asbestos packing ring and mica insulating washers to withstand the intense heat developed in handling up to 80 watts of energy, has also found extensive use as a heat control for soldering irons and other devices. In telegraph and telephone work variable resistors of this kind

are finding extensive application because of their precision as well as current-handling capacity. In electrical laboratories the precision or micrometric resistor of radio is finding many uses in controlling electric currents.

Were it not for the peculiar needs of radio, it is safe to assume that precision variable resistors would never have been developed for in no other application is positive and continually variable adjustment, non-fluctuating resistance, and ample current-handling capacity so essential.



# "Old Ideas for New"

*Do the ideas for the new programme material below strike you as unusual, original, or unique? They provide an excellent example of the value of appealing for suggestions.*

**W**HEN 4QG'S Ideal Programme Competition resulted in the announcement of the adjudicators that none of the entries was worth the prize of £5/5/- which was offered, the station offered a further ten prizes of £1/1/- each for the ten best suggestions received during the month of November in regard to its programmes. The reply to this appeal was most encouraging, and the names of the winners were recently announced.

During November each day brought a steady stream of letters to 4QG, all containing suggestions from their writers in regard to the programmes. Several request programmes, when the whole night was to be given over to items asked for by correspondents, were arranged.

## THE PRIZE-WINNERS

The prize-winners were as follows:

MR. H. HOLDEN, of "Blyth," Deagon Street, Sandgate, suggested that once every while the station draw the number of a license from those already taken out during the month, and award a prize to the lucky holder. This scheme, in the eyes of 4QG, is one which will interest a number of people and, provided that 4QG is able to obtain the necessary numbers from the P.M.G.'s Department, it will carry it out. A cash prize will not be awarded, but 4QG will pay for another year's license to the holder of the number it selected. Details will be announced at a later date.

MR. A. PRIPPLE, of Kedron, suggested that, as a novelty item, 4QG broadcast certain sounds which are heard in every-day life, and offer a prize to the listener who correctly names them.

MR. JAMES NICHOLSON, of M'Kenzie Street, Annerley, forwarded several suggestions, and has been awarded a prize for one suggestion that a prize party be given. A number of listeners suggested similar surprise parties or a surprise programme. Mr. Nicholson's suggestion was chosen as the best.

MR. EDGAR A. HIGGS, of Elizabeth Street, Toowong, considered that 4QG should broadcast the drawing of a Golden Casket. The scheme will be adopted.

MR. E. W. EVERRETT, of Gayn-

dah, made a suggestion which concerned the administrative section in particular, but which will have an effect on the programmes. He suggests the appointment of honorary correspondents in various centres for the collection of much news of interest and for the forwarding of reports. 4QG adopts the suggestion, and has appointed Mr. Everett as the first correspondent.

MRS. or MISS (not sure) JEAN K. BEIERS, of Nundah, suggested the provision of a programme by trained juvenile artists. A good suggestion, and incidentally one which was put forward by ten or a dozen correspondents. 4QG awarded the prize to "Mrs." Beiers because her letter was the first one containing this suggestion to be opened.

MR. A. M'DONALD, of 4QG's Aloha Novelty Trio, put forward a suggestion which was awarded a prize. He

suggested that the station compile a small booklet of simple instructions for its artists. One of these to be given to each artist engaged, with the request that he study the booklet.

MR. V. THOMAS, of West Maitland (N.S.W.), suggested that 4QG hold an old-time dance night in some hall, and broadcast all the directions and instructions given by the M.C.

MRS. JOHN BEGG, of Gold Thorne, Woombye, suggested the reading of a book chapter. Something like 20 or 30 people made this suggestion, and Mrs. Begg's letter was the first one opened.

KOOKABURRA, of Harrisville (apparently a lady), made quite a good suggestion—namely, that some night a programme be broadcast, with no names of items, and that listeners be asked to identify them, and a prize be awarded to the most successful listener.

## Happiness Unlimited!

**T**HE N.S.W. Broadcasting Company, Ltd., recently selected Mr. Frank Grose, the Boys' Work Director of the Y.M.C.A., to co-operate with the well-known 2FC Hello Man in these talks. Mr. Grose chose as his subject "Happiness," upon the assumption that it is the one common object of life. Among his unseen listeners he has formed the Cheer-up Society of N.S.W., which has for its badge the "Blue Bird," which is symbolical of happiness. The object of the society is "To make the world happier than we found it."

Members of the society are asked to promise to abide by the following rules: 1. Do unto others as I would have others do unto me. 2. Be charitable in word, thought, and deed. 3. Be courteous at all times. 4. Protect the weak. 5. Be kind to all dumb animals. 6. Refrain from judging others. 7. Keep smiling. 8. Try and make others smile. 9. Not to lose my temper. 10. Be nice to unattractive people.

Members are also asked to promise to try to be of service in one or more of the following ways:—

1. To visit the sick, blind, deaf, dumb, maimed, who are either in or out of hospital.
2. Visit hospitals, and, if possible, take flowers, books, magazines, comics, and some of my old—or new—toys.
3. Write letters to girls and boys

whom I cannot visit, and call them my pen friends.

4. If my father owns a motor car, ask him sometimes to take with us someone, perhaps a sick or poor child, who seldom enjoys this privilege.

5. If I live in or near Sydney, join the choir, orchestra, or concert party which exists for the purpose of rendering concerts for hospitals and charitable functions, and for broadcasting music to our fellow members.

6. Join a branch of the Cheer-up Society in my town or suburb, and, if there is not a branch in existence, organise one.

Although the talks are primarily for boys and girls, there is no age limit. All who feel young and happy enough are eligible for membership, provided, of course, they abide by the rules.

Already a surprising response has been received. Boys and girls of all ages from every part of the State are applying for membership, even as far as the Queensland and Victorian borders. It is also remarkable the earnestness manifested by the applicants in their endeavor to be of service to their fellows.

It is difficult to estimate the extent of the influence of this society. The opportunities are boundless, and it is possible that they will make an enduring name for themselves, engaged, as they are, in their laudable objective of "making the world happier than they found it."



# PEOPLE *in the* PROGRAMMES

LISTENING-IN lazily to 2BL'S programme the other night, we suddenly became interested in a sketch for three characters. We had seen only one artist—a tall, grey-headed man with a bright British complexion—go into the studio, yet three characters were speaking. At last Mr. Vern Barnett solved the mystery. "That's Scott Alexander," he said. So we had speech with Mr. Scott Alexander in the corridor. He has just returned from Melbourne, where he produced "When Knights Were Bold" and "Number 17" for Edgely and White, and is waiting for the company to come over to Sydney, where he will join them in "New Brooms." We hope to hear him over the air again in the near future, because we have seldom heard such mastery of character-sketching, with such facile command of the different voices. Of course, one could expect a commanding radio personality from a man who spent five and a half years with Irving, and whose most cherished memory is that of playing Macbeth to Genevieve Ward's Lady Macbeth. "She was the greatest Lady Macbeth the stage has ever seen," he said, and repeated it, so that Young Sydney might in future have respect for a greatness it had never seen.

His career is a record of pioneering. He brought the naughty French "Grand Guignol" playlets to London, translating them himself. "The Lord High Chancellor came to see them personally," he said, with a twinkle in his eye. "He let us go through them, and then told us we would have to stop it. So we stopped it." He brought the playlets out to Australia, and some were put on in St. James's

Hall; but not much has been heard of them since they were sold to Mr. Gaston Mervale.

Mr. Scott Alexander was broadcasting from the B.B.C. in its early days, when artists didn't even have to be tested before "appearing." "Broadcasting in those days was a very muddled business," he said. He was with 2FC and 2BL when crystal sets were considered wonderful, and produced many original plays and sketches—the first heard in Australia—including a horrible tragedy called "The Speckled Band," and a serial drama, "The Great Diamond Mystery." Mr. Scott Alexander writes all his own sketches, which now total two hundred and thirty. Of these one hundred and seventy-two have been played in Australia. "To-night's was the hundred and seventy-second," he



*This fierce pirate is really the gentle Mr. Scott Alexander in one of his many disguises.*



*Mr. Sydney Burchall, versatile 5CL vocalist.*

smiled. As he plays all the characters himself, he has a special manner of marking his manuscript, so that he can tell at a glance which character will speak next.

The photograph shows him as he appeared as the Skipper in "White Cargo"; and we hasten to assure you that the villainous appearance is a tribute to exceedingly fine artistry.

\* \* \*

## CHILD ENTERTAINER

ON Tuesday, December 18, 7ZL Hobart and its many listeners are to welcome a new artist to the Children's Hour. Miss Josephine Wanda Piesse has already attracted attention in Hobart, and is the talented daughter of Mr. Leslie Piesse, one of Hobart's prominent public men. Now 15 years of age, she is spoken of already as an accomplished elocutionist. She is the pupil of Miss Olive Wilton (who pro-

duces for the Hobart Repertory Society). Miss Piesse first appeared before the Hobart public at the early age of four, and will be remembered by many for her dainty playing of a small part in the production of Barrie's "Quality Street" by the Repertory Society.

## OPERATIC AMBITIONS

MR. SYDNEY BURCHALL, who is at present making harmonious sounds over the air from 5CL, received his first musical instruction in the choir of Chester Cathedral, England, from Mr. (now Dr. Frank) Bridge. He remained at Chester as soprano soloist until his voice "broke," and then gravitated to the Guildhall School, London, where he "put it together" again under the supervision of Sir Landon Ronald. Thus mended, he embarked on a successful concert career in company with such eminent artists as John M'Cormack, Harold Squire, and Harry Death.

But Mr. Burchall was not satisfied with success in the concert world, and commenced a study of languages and dramatic art, so that when a tempting engagement in light opera was offered him he was quite ready to begin. From that time, with the sparkling regularity of champagne bubbles, success followed success, until a particularly favorable opportunity induced him to come to Australia, where he has added considerably to his bubbles, and established himself as a singer of those songs of which we hear so much to-day, and which we don't remember to-morrow, and as an excellent interpreter of the more serious "classical" and operatic compositions.



*Miss Josephine Wanda Piesse, 7ZL's new bedtime-story-teller.*



# TEST MATCHES at SYDNEY

*A further talk on cricket to be given from 3LO by  
Mr. R. H. Campbell shortly.*

THE Test Matches began in 1877, but it was not until February, 1882 that Sydney was a venue for the great fixture. When the Australians did get a chance there, they made good use of it, victory resting with them by five wickets. Scoring was low, thanks to Palmer, as far as the English batsmen were concerned. The young Victorian was an outstanding example of the born bowler. There are men with long memories, who declare that, when little more than a lad, he was the best bowler in the country, although operating among the juniors in Albert Park. Be this as it may, he accounted for 11 wickets in the first Test played at Sydney 7 for 68 and 4 for 97. In the following month, Palmer was again in Sydney harassing the Englishmen. This time his figures read 5 for 46 and 4 for 44. One hears a good deal nowadays about the advantage of experience, but Palmer was doing all this when in his 22nd year. Shrewsbury held out against him with 82 and 47, while the brilliant Australian, Percy McDonnell, another mere boy of 21, got 147. That gifted left-hander, Peate, bagged 5 for 43 and 3 for 15. Bowling figures of the arresting type were rather common just then.

It was in January, 1893, that Barlow cleaned up 7 Australians for 40, and Spofforth almost equalled him with 7 for 44. The Australian had 4 for 73 in the first English innings, and was therefore second among the trundlers to get into double figures in Sydney Tests. Alec. Bannerman made 94 in that game, W. W. Read providing a score of 66. In the February game that year, A. G. Steele constituted himself pioneer English centurion in Sydney Tests, with a very fine 135 not out. His versatility was manifested by a capital bowling bracket—3 for 34 and 3 for 49. Harry Boyle did well in Australia's interest with 3 for 52 and 2 for 35. Blackham's watchful crouch when batting, as would be expected from one accustomed to eagerly brood over the wickets as he did was prominent with 57 and 58 not out. In that game Australia won as also the two that succeeded it. The centre game of this trio of victories was a delightfully near go, our margin being only six. Run-making proved remarkably difficult, owing to the dangerous bowling of Bates for England—5 for 24, and Spofforth for Australia—4 for 54 and 6 for 90. In spite of the partial run famine, Tom Garrett made 51 not out and Wilfred Flowers 56. The third successive win was an 8-wicket affair for us, Geo. Bonnor helping to this



*Mr. Barney Cook, the veteran, describing the first Test match for 4QG.*

end with 128, and Geo. Giffen with 7 for 117. Billy Bates managed to introduce an entry of 64 and Barnes 50, but the Englishmen were in very short supply. England overcame the habit of losing on the Sydney ground, when William Barnes went through the Australians in January, 1887. It was a bowler's match, the man from Nottingham appropriating 8 for 47. The Englishmen were unable to play Turner and Ferris, and collapsed for 45 in their opening essay, when the noted pair had 6 for 15 and 4 for 27, respectively. In England's second try, Ferris had 5 for 76, while Turner had 2 for 53. England's margin was 13 runs.

The following month, the bowlers again were in the ascendant, Turner showing 9 for 93, and Ferris 9 for 140. But Geo. Lohmann was greater still for England, his first innings bag then constituting a Test record—8 for 35. With a couple of scalps in the second bout, he distinguished himself by being the first double-figured English trundler in Sydney.

The ball resumed its domination in February, 1888, when Lohmann and Peel bowled unchanged through an innings, as Ferris and Turner had done the previous season. Australia scored 42, the lowest total in a Test in Australia. Peel's figures for the match were 10 for 58—the best English performance at Sydney. But Turner was also specialising and showed—12 for 87. No other Test trundler claims a dozen wickets at Sydney.

The bat took a turn once more, when Lord Sheffield's team appeared in January, 1892. Abel did what no other Test batsman has managed in Australia. He carried his bat through the innings with 132 not out. Alec. Bannerman and Jack Lyons, the sticker and the smiter, raised 174 for the second wicket. The two Georges

—Giffen and Lohmann—each got 13 wickets. It was indeed a game of specialities. The fight with Stoddart's first team was something to remember, Australia raised the vast total of 586, the record at Sydney, Syd. Gregory making 201 and Geo. Giffen 161. England's answer was 325; but a great follow-on yielded 437, to which Albert Ward subscribed 117. Peel was the destroyer in Australia's second bout with 6 for 67, and won the game for England by 10 runs. Revenge was not long deferred. Two months later, our boys put up a record for the Sydney Ground, getting home with an innings and 147 runs to spare. Harry Graham was making a first appearance at Sydney, and celebrated the occasion with a score of 105. Our bowlers were also in the picture—Giffen 5 for 26, and Turner 4 for 33—bowled unchanged in the second innings. Giffen's full analysis reading 8 for 40. England aggregated 137 runs—a modest collection for twice round.

Stoddart's second team dressed us down in December, 1898, MacLaren and Ranjitsinhji being out for runs. MacLaren got 109 and 50 not out, Ranji 175 and 8 not out. The South Australians were to the fore. Darling with 101 and Hill with 96, but J. T. Hearne was our undoing with 9 wickets for 141 in the game. Australia's turn came in the second Sydney match, when the South Australians again predominated, Darling with an entry of 160 and Jones for 9 wickets for 143 runs. MacLaren set his side a fine example in December, 1901, by raising 116. Australia fairly flopped on that occasion. England won by an innings and 124, but Australia evened things in the next Sydney flutter, when 9 for 162 by Saunders kept the English scoring down. Noble helped in the second English innings with 5 for 54, he and Saunders (5 for 43) bowling unchanged.

December, 1903, saw R. E. Foster sampling our attack for the first time. He put up the record score, which stands to this day—287. Two other Test records were associated with the innings—Braund and Foster 192 for the fifth wicket, and Foster and Rhodes 130 for the tenth wicket. One other point has no parallel in Tests—Foster's aggregate of 306 (287 and 19). The match yielded 1541 runs, being the second highest aggregate recorded at Sydney. Notable contributors were Trumper 185 not out, Noble 133, Braund 102, and Hayward 91. Runs were scarce in the next game that season, bowlers being to the fore, Noble 7 for 100, Bosanquet 6 for 51.



Noble also helped with two not outs—6 and 53. Introducing himself to a Sydney crowd, Geo. Gunn made 119 and 74 for A. O. Jones's team in December, 1907, but the rest of the visitors failed, and Australia won by 2 wickets. Clem Hill with 87, and Cotter with 6 for 101, were outstanding for Australia, Fielder doing his best to stem the tide against England with 6 for 82 and 3 for 83. Success also came our way in the next engagement, notwithstanding 7 for 60 by Barnes in our first innings. The famous bowler's one wicket in the second round cost him 78 runs, Trumper gathering in a fine 166. Geo. Gunn repeated his century performance, 122 not out, in the opening effort. Saunders got busy in the second innings with 5 for 82. Warner's second team suffered defeat by 146 runs in December, 1911. Trumper and Horder starting it for Australia with 113 and 12 for 175 respectively. Avenged in February, Woolley made 133 not out, and Barnes bagged 7 for 162 in the game. Horder was again destructive with 10 wickets for 161. Geo. Gunn

showed his continued partiality for Sydney wickets by collecting 52 and 61.

Australia put up 581 in the second innings against Douglas's team in December, 1920. Armstrong got 158, Collins 104 (his first Test Match), Armstrong and Kelleway put up a record for the sixth wicket with 187. Our second Sydney victory this season rested chiefly on Macartney's 170 and 93 by J. M. Gregory, with bowling aid from Kelleway—6 for 56. Fender with 5 for 90, was prominent for England.

Gilligan's team were entertained at Sydney in December, 1924, for 7 days. Australia put up a record by scoring 400 runs in each innings, 450 and 452, which brought success by a margin of 193 runs. The match yielded 1611 runs, being the highest aggregate recorded at Sydney, Collins 114, Ponsford (his first Test Match) 110, Taylor 108, A. J. Richardson 98, being the chief contributors. For England, Hobbs scored 115 and 67, and Sutcliffe, making his first appearance in a Test Match, in a curious reversal of these figures, made 59 and 115,

and Woolley 123. Maurice Tate, for England, playing in his first "Test," collected 11 wickets for 228 runs. This was the first occasion that 8 balls to the over were delivered in these games. Our second Sydney victory over the last visiting team by 307 runs was mainly brought about by Clarrie Grimmett (his first Test Match) taking 5 for 45 and 6 for 37. English scoring was low, no player reached 50 runs, and, as in their opening game, Hobbs and Sutcliffe finished with another curious reversal of figures. Hobbs scoring 0 and 13, Sutcliffe 24 and 0. Tate as in his opening venture stood out as England's leading trundler with 4 for 92 and 5 for 115. Ponsford with 80 in the opening round and Andrews with 80 in the second bout, were the top willow-wielders for our side. Out of a long Sydney campaign that has yielded much honor and involved some tribulation, Australia has emerged with 16 wins to England's 10.

In the individual performances recited, ample material should be found to quicken personal ambition and excite emulation.

## Two Operations on One Line in Street-lighting System

THE feat of sending two electric currents simultaneously over the same wire, thereby performing two operations with but one power highway, is accomplished by a new system of street-lighting recently put into service in Boston, Mass., U.S.A.

This latest triumph of electrical engineering, known to the profession as "resonant control," eliminates the necessity for a special network of wires to feed current to street lights, and makes it practical for the first time for street lights to receive their current supply from the same circuit that carries electricity to residences and office buildings.

Hitherto special wires were needed because only by use of them could street lights be turned on or off from a remote point. Without special wires attendants would have been required to operate switches at each individual lamp-post. Now, the same wire that feeds power to the lights transmits an electric impulse which turns on and turns off the lights at the proper times.

This system is now successfully controlling more than 100 new 750-watt lamps in Boston. This is the world's first commercial installation of "resonant control" street-lighting equipment.

It is because electricity travels in waves, engineers explain, that two or more currents can pass through the same wire channels. Each current

travels in its individual wave-path, and does not interfere with the other. In this case a medium frequency current, which turns the lights on or off, is superimposed on a low-frequency 4000-volt current which lights the lamps.

To separate these currents and divert each into its proper channel was the formidable problem which Westinghouse engineers had to solve in making "resonant control" possible. They reached the solution by applying principles of "electrical resonance," which correspond to the familiar principles of sound resonance.

Probably most persons have observed that when certain notes are played on a piano or a violin household articles, such as vases or pictures, are caused to vibrate. When this happens, it is said that the vase or picture is "in resonance" with the note. It is noted that only one musical pitch is capable of producing this effect.

Similar to this sound resonance there is a phenomenon of "electrical resonance," engineers declare. It is possible to construct a relay so "tuned" that it will operate only in response to one electrical frequency. "Tuned" relays of this type are the chief factors in the "resonant control" system.

In a box at the base of each street-lighting standard are two relays. One relay is "tuned" to receive an electrical impulse which will turn on the

lights. The other responds only to a frequency that will turn off the lights. Thus, by merely pushing the proper button, an operator at the sub-station can release a current which switches all the lights in the circuit either on or off. The "tuning" is accomplished by a complex and highly technical arrangement of condensers.

The chief advantage of "resonant control" is that it greatly reduces the cost of street-lighting by obviating the necessity of special wires. However, there is another important advantage—namely, that it permits the connection of lights "in parallel" rather than "in series."

Another feature of Boston's new street-lighting system is that each of the lights is mounted on a Westinghouse Hollowspun granite standard, which is capable of withstanding without serious injury heavy crashes from high-speed automobiles running amuck. The Hollowspun granite lighting standard is produced by a unique method, in which centrifugal force is used to compact a concrete mixture into a dense mass, possessing great strength. It is impervious to moisture, and is unaffected by climatic conditions.

"Can you give me an example of a commercial appliance used in ancient times?"

"Yes, sir, the loose leaf system, used in the Garden of Eden."



# Christmas Radio Features

## 2FC and 2BL

### Christmas Day.

ON the morning of Christmas Day the Lyceum service will be broadcast through 2FC. At 2BL, a Nativity play will be staged, in which Madame Ada Baker's pupils will participate. It is called "Nazareth"—an exquisite cameo of the birth of Christ, in which the imagination of the authoress takes a fascinating turn. This will be followed by a record recital of Christmas festival music.

In the afternoon, Christian Hellemann has arranged an organ recital at Christ Church, St. Laurence, and three of the winners of the Radio Eisteddfod will be associated with him. The N.S.W. Broadcasting Company has arranged the usual concert at the Lyceum at night, and the programme will include the Metropolitan Band, Barbara Briscoe, Rene Rich, Brunton Gibb, and the winners of the Soprano, Tenor, and Baritone Sections of the Radio Eisteddfod. Both these functions will be broadcast by 2FC. In the early evening session at 2FC, Hon. R. B. Orchard, C.B.E., will give a talk on "The Significance of Christmas."

The evening programme at 2BL will include Bertha Waters, Linda Hartge, Dulcie Blair, Robert Gilbert, Harry Thomas, and an organ recital from the Arcadia Theatre, Chatswood, by Mr. Nicholas Robins. In the afternoon at 2BL it is anticipated band music will be rendered by the Salvation Army Congress Band. From 3.0 to 3.15 a Carillon recital will be given. The vocalist is Miss Rosina Mad-dell.

### Roaming the Ether

EACH Wednesday during the last five weeks, by courtesy of Amalgamated Wireless (A/sia), Ltd., listeners have had an opportunity of visiting various countries by wireless. On Boxing Night, each of the following stations will be visited in turn, at the close of the usual evening programme at 2FC (10.30).—2XAF, Schenectady; ANE, Java; JHBB, Japan; RFN, Russia; and PCLL, Holland.

### Rollicking Baritone.

ALFRED CUNNINGHAM is in fine voice after his tour of the West. His is the rollicking type of baritone which exudes robust cheerfulness, and the attractive programme he has prepared for 2FC listeners on Friday, December 21, is no exception.

### Byrd Expedition

JAMES DONNELLY has prepared some very interesting material in connection with the famous Byrd Antarctic Expedition, which listeners to 2FC will have the benefit of on Friday, December 21. He will speak at 7.50 p.m.

## STUDIO NOTES

### OUR "WHO'S WHO" PROGRAMME

THE 2FC programme on Friday night, December 28, is to be shrouded in mystery. The item will be announced, but not the artist, and listeners are asked to guess the identity of each contributor to the entertainment. All those appearing at the studio on that night are well known to 2FC listeners; there will be no difficulty in recognising the voices, and a gentle hint is given that the instrumentalists are regular—and popular—performers.

A prize will be offered to the listener whose guess is the most accurate.

Watch for further announcements in next week's "Wireless Weekly."

### Diggers' Entertainment.

THE New South Wales Broadcasting Company's Hospital Concert Party's last two functions in the Old Year are the Prince of Wales Hospital, Randwick, on Saturday, December 22; and the Burnside Orphans' Home, Parramatta, on Thursday, December 27. The Soldiers' Party, on December 22, is under the direction of Charles Lawrence, and he is taking with him Carlton Fay, Maggie Foster, Jimmy Donnelly, and Ray Bennett. The soldiers will be entertained until 8.45, and then the Rose Mary Girls (who visit Hut 15 every Saturday, where the concert will be given), will unload a Christmas tree of good things for "the boys." W. E. Lewis (popularly known as "Billy"), has undertaken the Burnside concert, and he will have the assistance of Dorrie Ward, Frank Ryan, Harrison White, and Phil Mountain. The entertainment on December 22 will be broadcast by 2FC; and on December 27 by 2BL.

### Dance Night.

ON Boxing Night 2BL are holding a dance night. The dance band has been programmed early, and will play continuously throughout the night. They are ready and willing to play request numbers, and on this holiday night it is anticipated many listeners will take advantage of the opportunity of submitting their favorite dance tunes. The Savoyans are an excellently-balanced combination and they promise to provide a good solid programme of dance music.

## 3LO and 3AR

### "Scrooge."

AMONG the many delightful programmes that have been arranged by 3LO during the coming festival season is the studio performance of "Scrooge"—the evergreen Dickens classic—which, at this season of the year, is played in almost every English-speaking country in the world. As on previous occasions, the character Scrooge will again be portrayed by Maurice Dudley (who is also responsible for the production), and Christmas Carols will be rendered by the Station Orchestra and a specially selected choir of voices.

### "Ye Olde Englishe Christmas Partie."

A SPECIAL 3LO programme has been arranged for Christmas Night, December 25, by the well-known entertainer, J. Harcourt Bailey, who will have the co-operation of the Sundowners' Radio Revue Company, and Miss Dorothy Turner-Crawford. An original ghost story will be realistically told by Mr. Bailey, who has also written a seasonable sketch entitled "Ye Old Englishe Christmas Partie," in which the entire company will take part. The Sundowners will render Christmas glees and carols.

### Christmas at 3AR

CHRISTMAS DAY programme from 3AR will include the morning service from Wesley Church, a special musical programme from the studio during the afternoon, and a grand concert, which will be transmitted from Wesley Church, at night. On Christmas Eve, December 24, Mr. J. Howlett Ross, will give an address on "The Origin and Significance of Christmas," when appropriate vocal and instrumental items will go to make up an excellent programme.

### Stephanie Deste at 3LO.

LISTENERS who remember the Scripture readings given over the air some months ago by Miss Stephanie Deste, will be glad to know that she will again be broadcasting from 3LO on Sunday, December 23.

### St. Mark's Choristers.

A SPLENDID programme has been arranged at 3LO during the Children's Hour on Monday, December 24, when carols will be rendered by the young choristers of St. Mark's, Fitzroy, with one or two special solos included in the programme. An additional attraction for this session will be a story of "A Christmas Adventure," full of unusual surprises, told by the ever-popular Captain Donald MacLean.



# Radio Insect Exterminators

Among the varied applications of radio few are surely stranger than this—the ridding of orchards and vineyards of insect pests. The story has the quality of mediaeval witchery.

By S. R. WINTERS.

**I**N recounting the two billion dollar loss annually sustained by agricultural crops from insect depredations, Dr. Leland O. Howard, former chief of the Bureau of Entomology, United States Department of Agriculture, recently asserted that the potentialities of radio and electrical means in destroying pests remained to be explored. Apparently this challenge has been accepted by apple-growers in the North-west (U.S.A.). By special permission of the Federal Radio Commission agriculturists in the State of Washington are not only employing radio waves for "electrocuting" pests that bother, but the same electric current is used as a possible stimulating force upon plant life.

The electrical equipment, with its inductance loading coil, switches, and meters, resembles the now obsolete spark radio transmitter, once so popular in naval wireless stations. The network of wires spreading through the apple orchard simulates, in appearance at least, the radiating antenna of a powerful transmitting station. Short wires dangling down at an angle from the main network—not necessarily in contact with the apple trees—administer electrical treatments to the insect-infested orchards, and give, so it is claimed, a tonic effect to the apple-bearing trees. Unfortunately, the young radio engineer who designed the apparatus failed to witness the full fruition of his dream, Dr. B. N. Burgland, the inventor, having died shortly before the machine was built. He left a record of his conception, and from this his widow obtained patents from the Patent Office of the United States Department of Commerce.

Originally tests with this radio equipment as an enemy to insects and a stimulator to plant growth were confined to a greenhouse at Wenatchee, Wash. But with permission to "broadcast" these buzzing waves during certain periods of the day the experiments were projected by a Washington concern to embrace apple orchards. An electric motor, operating from 15 minutes to half an hour a day, served the purpose of thousands of gallons of poisonous sprays in combating destructive pests, according to claims. Furthermore, we are told, this machine in radiating radio waves or electric currents produced an appreciable quantity of ozones in the atmosphere, and these in expelling oxygen from the tree substituted in its place

quantities of nitrogen. The nitric oxide in the air when combined with the soil was found to be a natural fertiliser, it is said.

This action—that is, electricity as a fertiliser of farm crops and orchards—is disputed by the Bureau of Plant Industry, United States Department of Agriculture. Dr. L. H. Flint, pathologist of the Federal Government, after several years of experimental effort at the Arlington Experimental Farm, arrived at the conclusion that no beneficial effects were derived from the electrical treatment of crops, and, furthermore, that if sufficient energy was induced in the earth it would kill the plant growth. This scientific conclusion was not satisfying to the late Admiral W. H. G. Bullard, former Director of Naval Communications and chairman of the Federal Radio Commission at the time of his death, who attributed the remarkable growth of barley in the vicinity of the Arlington naval radio station to the fertilising effect of radio waves.

Thus, it is seen, observers fail to agree even as to the possibilities of radio waves as a stimulating force on agricultural crops. Meanwhile the experiments in the apple-producing belt of the Pacific North-west continue. The machine, looking like a spark radio transmitter, derives its source of power from a 110-volt line, which likewise supplies electricity to homes and farm buildings. However, as an agency for destroying orchard insects and as a possible agent in fertilising the soil the power is stepped up by transformers to as much as 600,000 volts. This voltage is not dangerous to the workmen in the apple orchards unless their pruning or other metallic implements come into contact with the energised short wires dangling from the antenna-like network.

The greenhouses, with their pots of begonia plants, castor beans, onions, poinsettia, and radishes, are also receiving electrical treatments, the results of which should either affirm or refute the now disputed theory of radio waves as a source of stimulating force to plant life. The results of preliminary tests, if we are to accept them with any degree of finality, seem to indicate decidedly beneficial effects of electrical treatments. Castor bean plants, we are told, grew to normal height in two weeks, whereas in the absence of electrical energy the necessary period of propagation is several months. Potted begonia plants, un-

treated electrically, grew only six inches high in two weeks, whereas during the corresponding period begonia plants attained a height of 12 inches when subjected to high frequency currents. The radish, rough-leaved plant that it is, seemed to absorb electricity more readily, and for that reason, it is believed, responded to a greater degree to the electrical energy. On the other hand, the smooth-leaved onion was practically immune to the radio waves, being both difficult to treat and practically unresponsive to any artificial stimulus.

And while the United States Department of Agriculture, for lack of proof in its own test at the Arlington Experimental Farm, is dubious about the value of electric energy in hastening the growth of orchards and farm crops, no authority has scoffed at the feasibility of radio waves as an agent of destruction to insects. In fact, a former worker in the Bureau of Entomology conducted promising tests along this line, and such a world-wide authority on insect life as Dr. L. O. Howard has suggested the potentialities of this unexplored field—electricity as a means of minimising the crop insect toll of two billion dollars!

## Historic Victoria

A SERIES of talks which promises to be of great interest to many listeners will commence from 3AR on December 24, when, under the auspices of the Historical Society of Victoria, various lectures will be given on the "History of the State," dating from the time of its formation.

## The Famous Lamberts.

THE two gifted musicians, Edouard and Raymond Lambert, are included in the programme at 3LO on December 23, and will be heard in selected violin and piano solos, also duets.



# Hitting Below The Broadcast Belt

*A Short-wave log conducted by VK-2NO*



THE greatest snag of all to good short-wave reception has been that of static during the last few days. It has even permeated the sacred realms of 20 metres, which band it usually seems to avoid. In between the din of crashes and rattles one has been able to clear up a little telephony from the distant stations, but it is a trying business holding one's breath trying to identity an announcement. The music stops, and a voice is heard saying, "Allo, allo, radiophone station." . . . Thump! Bang! Fizzzz! And one feels inclined to go out and watch the night moths skimming by in a balmy night air.

However, even static will pass, and sometimes on a night which looks sultry and thundery the air is as clear as the proverbial bell. Recently I have been testing the R.C.A. model 1145 receiver, and have been obtaining quite good results. This receiver uses a screen grid R.F. amplifier of untuned type, consequently needs a good outside aerial.

In Australia it is mostly a head-phone receiver, except for such strong locals as 2ME and 3ME who may be put on the speaker on most occasions. The smoothness of control is a "thing of beauty and joy forever," and to those who are not acquainted with the art of short-wave tuning, the R.C.A. 1145 may be highly recommended.

## DECEMBER 6.

On Thursday, December 6, while using this receiver, 5SW, England, started up sharp at 10.30 on his new 25-metre wave, and was a good R5. announcements and Greenwich time signals were very clear. Radio Paris was in the midst of a musical programme about this time also, and was much stronger than 5SW. A little information has filtered through to me regarding the transmitting equipment at Radio Paris. It is rumored to be the very latest, has 5KW in the aerial, and 100 per cent. modulation. It certainly sounds the best in Australia.

## DECEMBER 7.

On the morning of December 7, 2ME was busy with tests and was coming in at my location with terrific strength. I had to remove the aerial to heterodyne his carrier wave, which had lost the slight ripple of a few weeks previously. At 6 a.m. a very interesting test started in connection with the N.S.W. Aero Club.

Piloted by Mr. Willshire, the "Rousabout" left Mascot for Ballina. His call (2FB) came through very well for an hour or two, and then he reported that he had hit rain clouds, and the signals spluttered and died. Mr. Colville, who was at the phones at the ground station at Mascot (2FA) gave me the reason afterward. The neat little generator he had designed had shown a tendency to overheat in the armature. He drilled an air vent in the streamline casing at the front, and one at the back to allow a free passage of air. Rain was not contemplated on the trip, and after nosing through the first storm cloud, the generator became a "wash-out" in both senses.

## AERO CLUB.

On Saturday, December 1, Mr. Colville was successful in receiving the speech from the ground station perfectly, while flying at a height of 3000 feet. This, and the continuous telegraphy tests, dispel the idea that short-wave reception in an aeroplane is not feasible owing to interference from the ignition system. Not only do 2FA and 2FB carry out daily almost continuous two-way communication, but Mr. Colville found that he could hear many Australian and New Zealand experimental transmitters calling him at good strength. The design of the installation on the "Rousabout" allows for the ready operation of the transmitter by the pilot, so when Mr. Colville gets his "wings" the experimental stations of N.S.W. may expect some interesting contacts with him as he spends his Saturday afternoons in the azure blue.

## NEW REGULATIONS.

Talking about the experimental transmitter, the new regulations have arrived with a bump! The bump is real, because, for some unknown and unexplained reason the 80-metre band internationally granted at Washington, is not even mentioned. These are the frequencies to be used from January 1, 1929, by Australian experimental stations.

60,000KC (5 metres) to 56,000KC (5.35 metres).  
30,000KC (10 metres) to 28,000KC (10.7 metres).  
14,400KC (20.8 metres) to 14,000KC (21.4 metres).  
7300KC (41 metres) to 7000KC (42.8 metres).

1990KC (150.8 metres) to 1715KC (175 metres).

1715KC (175 metres) to 1200KC (250 metres).

Needless to say, the Australian experimenter will feel keen disappointment at the loss of the 80-metre band, as it is sincerely hoped that the discrepancy is a mistake. The call signals for experimental stations have been altered Internationally. Existing call letters for Australians will now be prefixed with the letters VK. Thus Australian 2NO is no longer known as 2NO, but as VK2NO. The Americans use W and the British G. All the abbreviations have been revised, and there is no doubt but that every sane-thinking person considers that the Washington conference was merely a trouble-making process on the part of a few, with the result that the rest of the world had to acquiesce. There is no doubt but that experimental communication throughout the world was progressing smoothly, and if such a state as Justice existed in "ham" radio, then the "ham" should have been crowned with laurel leaves instead of clipping his wings.

## NEW SHORT WAVE.

Observations last night, December 11, with the UNI-INTERNATIONAL FOUR (to be described in the next issue) showed that a few Australian experimenters were having a last peep on 32 metres. It seemed strange to hear Phil Nolan's well-known fist signing "de VK-2YL." A few were adjusting up on 42 metres ready for the fray. My own station, VK-2NO, is at present out of commission, and is in the process of merging with VK-2AW, the station of Mr. A. D. Dye, Martin Road, Centennial Park, Sydney. When the combination is complete, the result will be one of the most extensive and up-to-date experimental stations of the world. Telephony transmissions will take place on various waves from 175 to 250 metres, and telegraphy on 10.5, 21, and 42 metres. Most of the work on 42 will be done by a special crystal controlled transmitter, with a self-exciter standby capable of operating at a moment's notice on 42, 21, and 10.5 metres. At the location of VK-2AW—VK-2NO, short wave observations will be compiled for the benefit of "Wireless Weekly" readers, and details of receivers used passed on through the technical columns.



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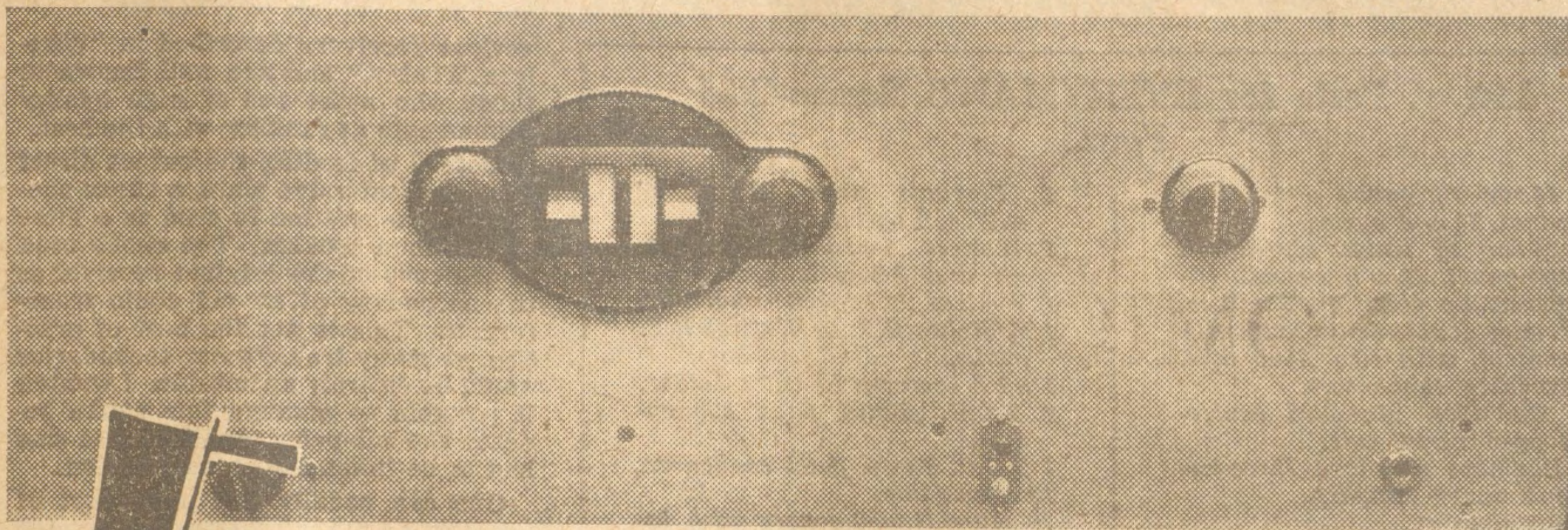
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By DON B. KNOCK (Associate Technical Editor)



# EVERYMAN'S Screen-grid 4

*The simplest screen-grid receiver you can make which gives you a first class performance. Completely shielded with polished aluminium, it has a handsome appearance and is easily operated.*

THESE are the days when those who do not possess a wireless receiver are wishing sincerely that they had one. Traditional cricket honors are at stake, and every Australian who is interested (and they are few and far between who are not) is listening closely to the laconic reports of crashing wickets or runs made, and he realises that wireless broadcasting is a blessing indeed in bringing the Test ground literally to his home circle.

To-day we find the wireless receiver playing an important part in keeping the followers of sport in touch with actual happenings, just as if one were present at the actual event. Cricket, football, swimming, racing, and entertainment of all kinds. All these are in the process of transmission, and all that is required is a combination of thermionic valves, coils, and condensers, and out of the seemingly silent atmosphere is revealed the wonders of this era of civilisation.

It was interesting to note after the trans-Pacific flight of the Southern Cross how the public interest in wireless reception increased in leaps and bounds. Friends who owned broadcast receivers talked of the wonderful

way in which they were able to hear the signals from the aeroplane as she battled her way through the stormy night. They wouldn't have missed hearing that for a fortune. The air men revealed their intention of crossing the Tasman Sea, and the friends decided they must make or buy a set, as they simply must be able to hear the reports from the machine. They did, and they probably, with myself, said strong things under their breath when on the return journey; a message from the Southern Cross said that "there is only three minutes' petrol left," and some unfeeling telephone subscriber asked the announcer at 2BL to "please oblige with a foxtrot!"

And now the cricket scores. The Test matches are in progress, and all over Australia thousands of listeners are awaiting with keen interest the latest scores. On the other hand, there are those who do not possess broadcast receivers, and on these occasions regret their delay in deciding to have one.

The truth of the matter is that wireless broadcasting is no longer just an entertainment. It is a national necessity. In the same way a motor car is far from being a luxury, and most people definitely need one to be able

to attend to their business quickly. The home which lacks a radio set is under as much inconvenience as if the bathroom had been omitted in the design of the house.

The modern newspaper is a marvel of efficiency, and lays before you in black and white the up-to-date happenings of the world — we should be in a sorry plight without them — but the science of wireless communication has the advantage of extreme speed. In some parts of the world the wireless equipment is included in the design of the modern residence, and it is safe to say that in this generation the same will apply to the television receiver, which will enable one to see actual happenings as well as to hear them. Looking back a few years, there is no need for reticence in predicting future happenings, as anything is possible.

Having made my introduction for this article, the reader will be able to grasp my motive for the preceding words, which is briefly that no one should be without a set at least capable of receiving the local station. The local stations will provide everything you require in the way of news and entertainment, and it is not worth while "chasing long distance" in the



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| 1 14 or 16 gauge aluminium sub-panel, 24 x 8 inches.                            | 1 Wetless .00025 grid condenser and 5-meg leak.                |
| 1 Screening partition, 8 x 6 in.  | 1 Wetless .001 fixed condenser.                                |
| 1 Emmco double-drum condenser control, with two .0005 mfd. variable condensers. | 1 Radiokes R.F. or Wetless R.F. choke.                         |
| 1 Radiokes standard centre-tapped aerial coil.                                  | 1 S625 screen-grid valve-holder.                               |
| 1 Radiokes standard three-circuit tuner (Bayer).                                | 2 T.C.C. .5-mfd fixed condensers.                              |
| 1 Bradleystat.  | 1 T.C.C. 2-mfd fixed condenser.                                |
| 1 Battery switch.   | 13 Terminals.  |
| 1 Single-circuit jack.  | 16-gauge tinned copper wire, insulating sleeving, solder, etc. |
| 1 Philips audio transformer.  | Valves recommended:—   |
| 1 Gecophone 4-1 or Ferranti AF3 audio transformer.                              | 1 Osram or Marconi S625.                                       |
|   | 1 Six-sixty 610 P.   |
|   | 2 Mullard PM6.   |

summer. However, summer will pass, and then you may want to listen to events from distant stations, and so I am placing before you a design which will do for all time.

The "EVERYMAN'S Screen-grid Four" is another metal receiver. It uses a screen-grid R.F. amplifier, in this case the well-known Osram S625 or Marconi S625. A few words are necessary regarding the S625 type of screen-grid valve. A misunderstanding recently arose owing to a misworded statement of a London correspondent in a radio journal. This statement led readers to believe that the Osram Company had produced a new type of screen-grid valve, and that the S625 type would be superseded. This is not the case, and although the Osram Company has produced new screen-grid valves of dif-

ferent voltage, rating, and characteristics, the S625 valve will definitely remain the same. This means that this powerful R.F. amplifying valve will always be available in Sydney, as it is marketed by the British General Electric Company, Ltd., Magnet House, Clarence Street, Sydney.

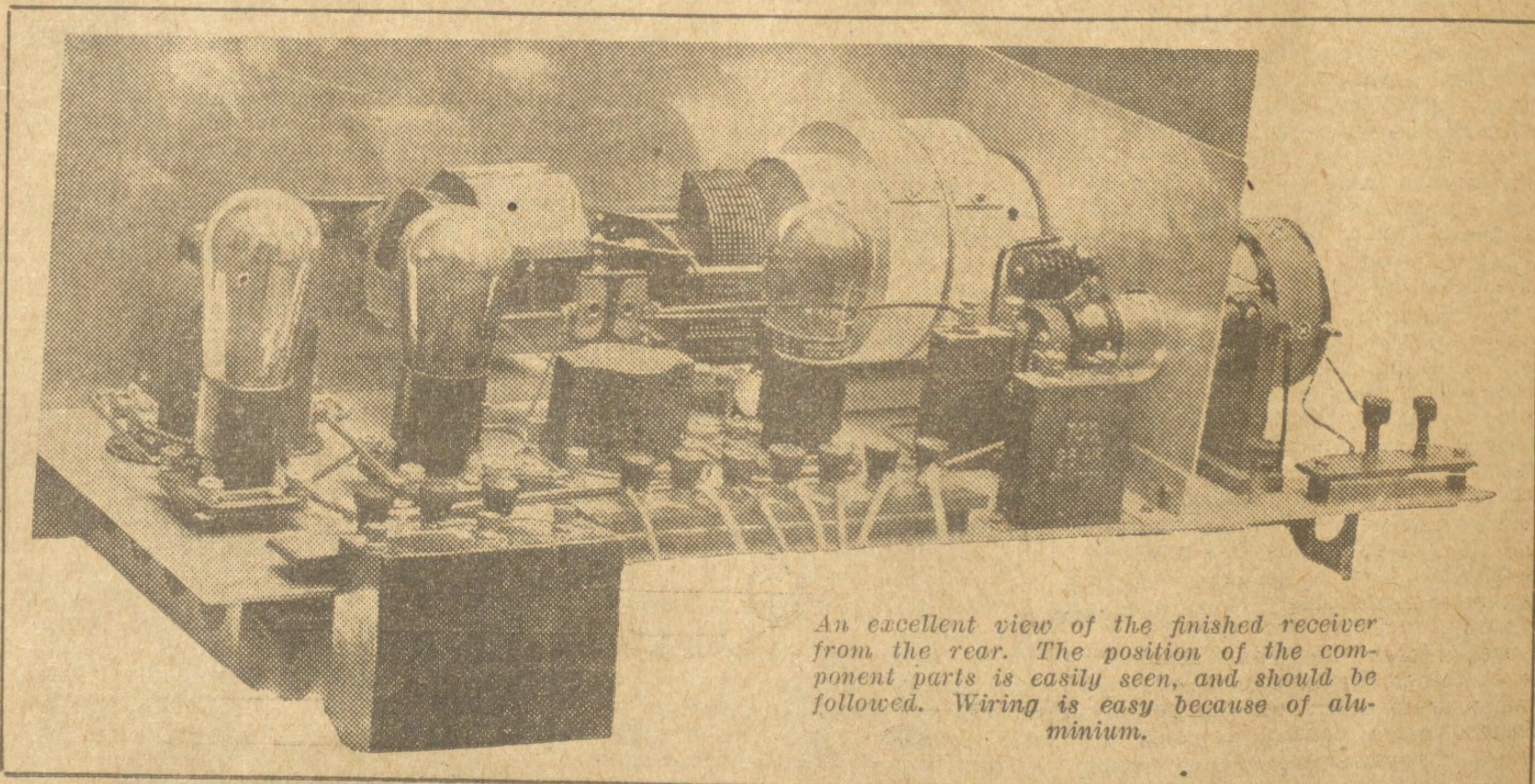
In the "Everyman's Screen-grid Four," the S625 is followed by a Six-sixty 610 P., as the detector valve. I find this Six-sixty valve remarkably efficient as a detector, following a screen-grid R.F. amplifier, whether for normal broadcast or short-wave work. The first audio amplifier is coupled by means of the Philips transformer, and the valve used is a Mullard PM6. A PM6 also does duty in the output stage, and the transformer is a Gecophone of 4 to 1 ratio. Gecophone transformers have been used in

various receivers described in "Wireless Weekly," and are well known to those who make use of high quality components as ranking with the best.

Instead of feeding the output direct from the last valve plate, a choke condenser combination is used as a filter for the loud speaker. The choke used in the case of the original receiver is the secondary of an old audio transformer. This is not the best of practice, as many transformer secondaries would be entirely unsuitable. I wanted if possible to arrange this choke beneath the sub-panel, and here the size had to be taken into consideration.

One can usually find some sort of use for old transformers, and a dive into my scrap-box brought to light an old Jefferson Star, with the secondary still in the land of the living. The impedance of this winding proved to be just about right for the purpose required, and so the hitherto condemned and ancient transformer is doing good work in a modern receiver.

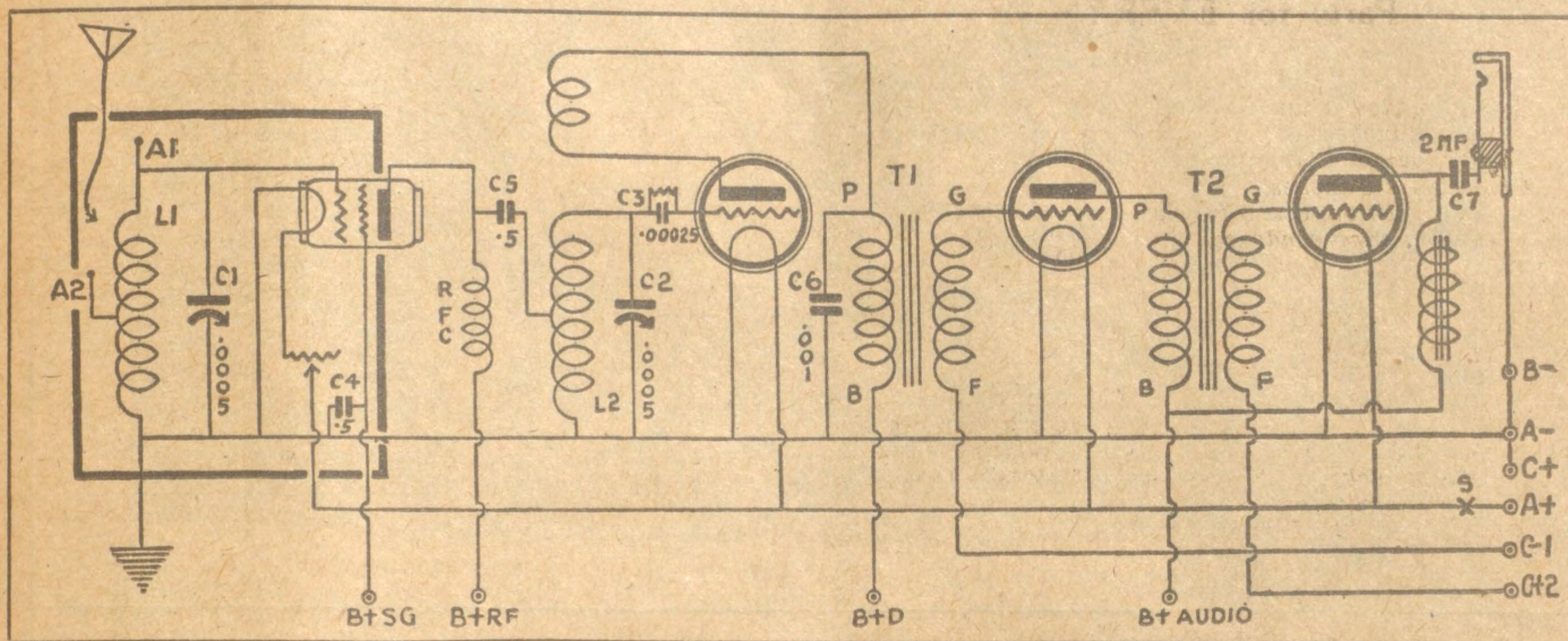
A 2 mfd. TCC condenser is the bypass capacity used. Not everyone will be able to lay their hands on an old transformer which may be suitable as this output choke, and so readers are advised to do just what I should have done myself if I could not have pressed the old transformer into service, and that is, use a choke designed for the purpose. Our advertisers have many chokes in their lists of products which, although too large physically to mount under the sub-panel, take up only the same amount of room on the top of the sub-panel as the usual audio transformer. First we have the new Ferranti chokes, types B 1, 2, and 3. Any of these may be used as the output filter choke. The A.W.A. Superaudio



An excellent view of the finished receiver from the rear. The position of the component parts is easily seen, and should be followed. Wiring is easy because of aluminium.



# Tuning is Easy With Simple Drum Controls



choke is excellent for the purpose also, and is very compact in size.

The coils used in the "EVERY-MAN'S Screen-grid Four" are standard Radiokes products, and only a little alteration is necessary to one for adaptation to this circuit. The aerial or R.F. coupling coil consists of 50 turns of No. 26 gauge D.S.C. copper wire, wound on a former 3 inches in diameter and tapped at the 25th turn. The inter-stage R.F. transformer is a Radiokes standard three-circuit tuner of the Bayer type. The primary of this coil unit is not required, as the circuit makes use of the tuned anode method of coupling the screen-grid valve.

It is not strictly necessary to remove the primary from its bakelite mounting, as its presence will not affect the stability of the circuit in any way; but in the original model it was removed, as will be seen from the photographs. A centre tapping is required from the secondary, and to make this is but the work of a few moments. Lift the wire with a pocket knife at the 25th turn from the grid end, and scrape away the insulation at this point. Bend a short length of 18 gauge tinned copper wire at right angles and solder to the coil at this position. Leave this tinned wire about three inches long, so that it may be bent into the right position for connection to a lead from the coupling condenser C5 (.5 mfd.).

If you should have any standard coil with a variable reaction coil in your collection of apparatus, this may be pressed into service similarly by making the centre tapping.

The tuning controls for this receiver are different to the usual scheme of things, being effected by the Emmco drum condenser control. The Emmco drum control as supplied has three variable condensers, being intended for two-stage R.F. amplifier and detector tuning. The drum

on the right controls two condensers and the one on the left the remaining condenser.

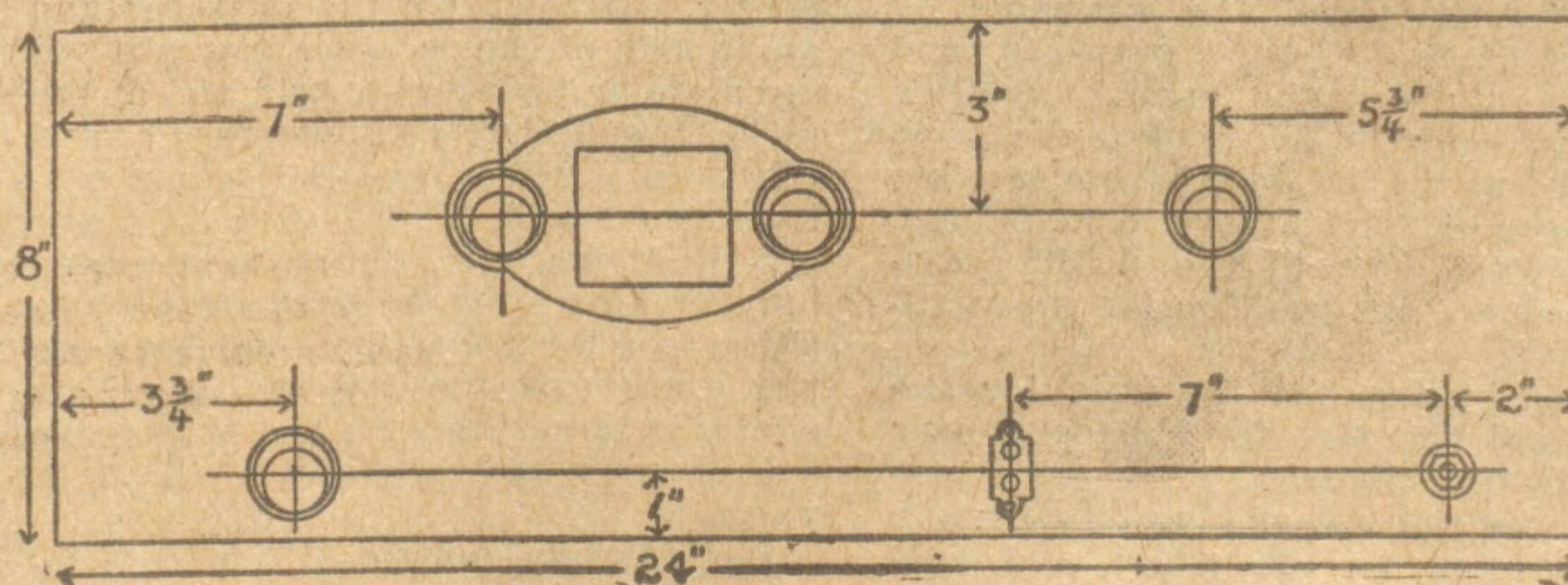
We only require two condensers for this receiver, so it is but a matter of a few minutes to remove the extreme right-hand condenser from the drum chassis. The condensers are held down by screws and the spindles locked together by a removable coupling. When this condenser is dismantled there will be a few inches of the chassis protruding, but the position of the Radiokes three-circuit tuner on the panel is such that it covers the remainder of the chassis. This Emmco drum unit is worth using. It keeps the panel very neat in appearance, and the smooth running of the drums makes tuning a pleasure.

The photographs will give a fair indication of the physical construction of the receiver. It is necessary to emphasise that if maximum selectivity is desired the whole receiver should be boxed in. That is to say that a back, sides, and lid should be made to enclose the whole affair. Under normal conditions the receiver needs no more screening than is shown in the photographs. It was tested in a house situated in a gully in Bronte, which is fairly near to the transmitter of 2BL, and with an inside aerial round the picture rail,

only 20 feet long, it is easy to separate 2BL from 3LO. Previous to the advent of the summer months 2YA Wellington, New Zealand, was receivable on many occasions at good volume in an M.P.A. loud speaker.

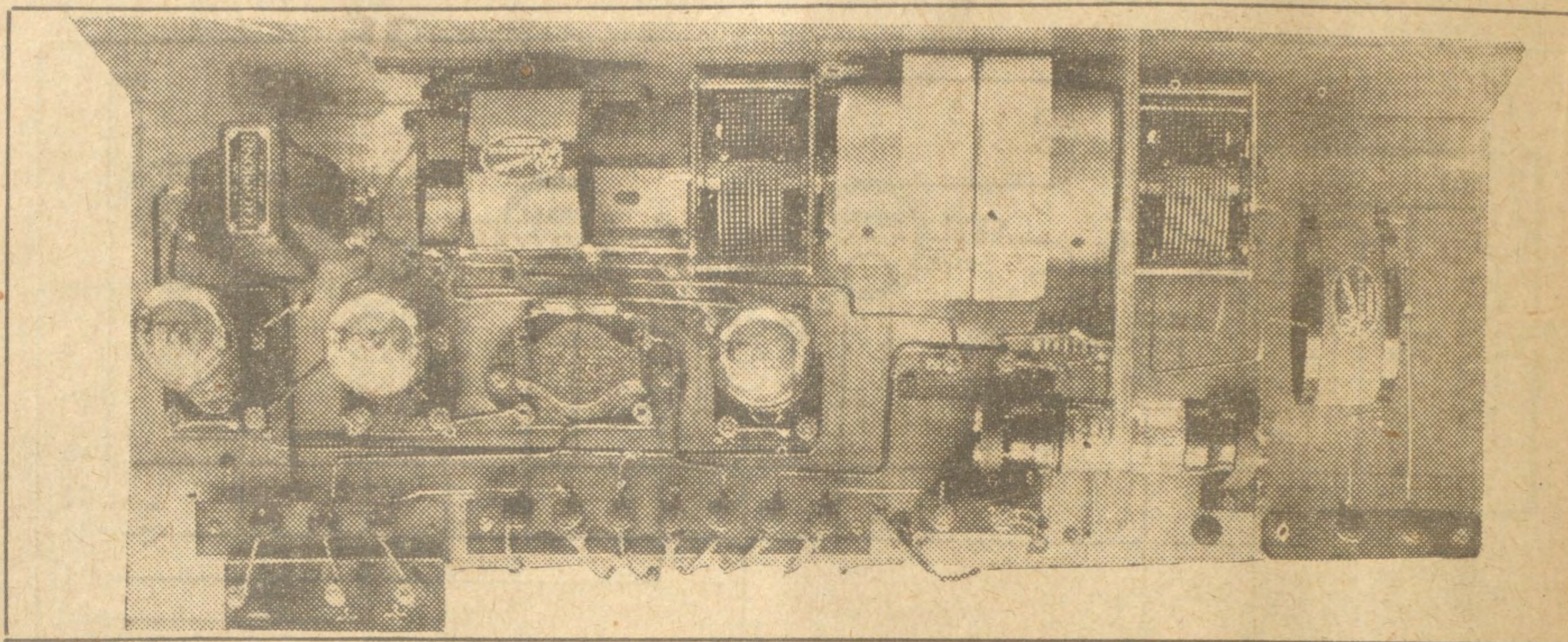
An aluminium panel and sub-panel are used for the receiver chassis. They have both the same measurements, 24 x 8 inches, and are assembled in the usual panel and sub-panel method with Airzone brackets. The partition for the screening of the S625 valve measures 8 x 6 inches. The hole for the insertion of the S625 valve must be cut, and in addition it is necessary to cut the aluminium away at the front to allow the spindle of the left-hand or R.F. tuning condenser to pass through. This is done by cutting a slot slightly wider than the diameter of the condenser spindle to a depth of about two inches. First of all, you will be well advised to rub the surface of the panel with fine emery cloth to give it a matt surface. If it is left polished it will accumulate many scratches and marks during the process of assembling the set, and the finished product will not look very pretty. The matt surface gives a good dull finish, and really looks better. Any marks from greasy fingers may be subsequently removed with a damp petrol cloth.

After having treated the panel, mark





## Complete Aluminium Chassis Strengthens Design



it off as shown in the drilling diagram for the controls. These are the Emmco drum mounting, the reaction control, the Bradleystat for the filament of the S625, the battery switch, and the single-circuit jack. A template accompanies the Emmco unit, so no mistake should be made with this. The dotted lines on this template show where the panel must be cut away to allow for rotation of the drums. The best way to do this is to drill holes around the dotted line, and then cut the inside away with a small metal chisel, afterward filing the edges.

The Bradleystat must be insulated from the panel, and this is done by cutting a small piece of bakelite, about 2 inches by 1 inch, and bolting this with countersunk-headed screws to the back of the panel after a clearance hole has been drilled for the one-hole fixing of the Bradleystat. A hole can then be drilled in the bakelite in the dead centre to mount the Bradleystat, thus keeping it clear of the metal. The battery switch must be treated similarly, as it is connected in the A positive supply, but there is no material reason why it should not be connected in the A negative, which is also the metal panel and earth. The single-circuit jack is mounted direct on the panel. The inclusion of the filter in the output circuit and the connection of one side of the jack to B negative allows this.

Mount the panel and sub-panel by means of the Airzone brackets, and half way along the panel add a strengthening bracket of angle strip to prevent the sub-panel from sagging with the weight of the components. The dotted line in the drilling diagram shows the position for the partition.

After having cut the hole for the S625 and the slot for the condenser spindle this partition is mounted vertically by the use of aluminium angle strip bolted to the panel and sub-

panel. The angle strip has an advantage. If you are not accustomed to cutting sheet metal and draw filing the edges for a good butt joint, any air space is covered up by the angle strip, thus making the shielding complete. The size of the panel, sub-panel, and partition is the same as for my "All Empire" receiver, and the complete kit of aluminium, ready-cut, may be obtained from Colville Moore Wireless Supplies, Ltd., at a very modest sum. If you do not like the appearance of the plain aluminium, the Metropolitan Electric Co., Ltd., the makers of Radiokes products, will supply to order any shielding kits, finished with an attractive black crackle surface.

Look at the plan and back-of-panel views of the receiver, and you will obtain a good idea of the lay-out. Mount all the front panel components first, and then proceed with the valve sockets, transformers, by-pass condensers, etc. In the R.F. compartment are the control grid and filament end of the screen grid valve, three terminals, the aerial coil, and the tuning condenser C1.

Two terminals are arranged on a small strip of bakelite for the aerial connections, and the other terminal, for the earth, is mounted directly on the sub-panel, as this is earthed. The holders for the S625 valve may be obtained from the British General Electric Co., Ltd., Magnet House, Clarence Street, Sydney. On the detector and audio side of the receiver you will see the plate and screening-grid end of the S625, the T.C.C. condensers C4 and C5 (both .5 mfd.), and the drums controlling C1 and C2.

A Radiokes R.F. choke is mounted by attaching it by its base to the partition in a horizontal position between the drum and the S.G. valve. This choke is in series with the B positive R.F. supply to the plate of the S.G. valve.

Immediately behind C2 is the de-

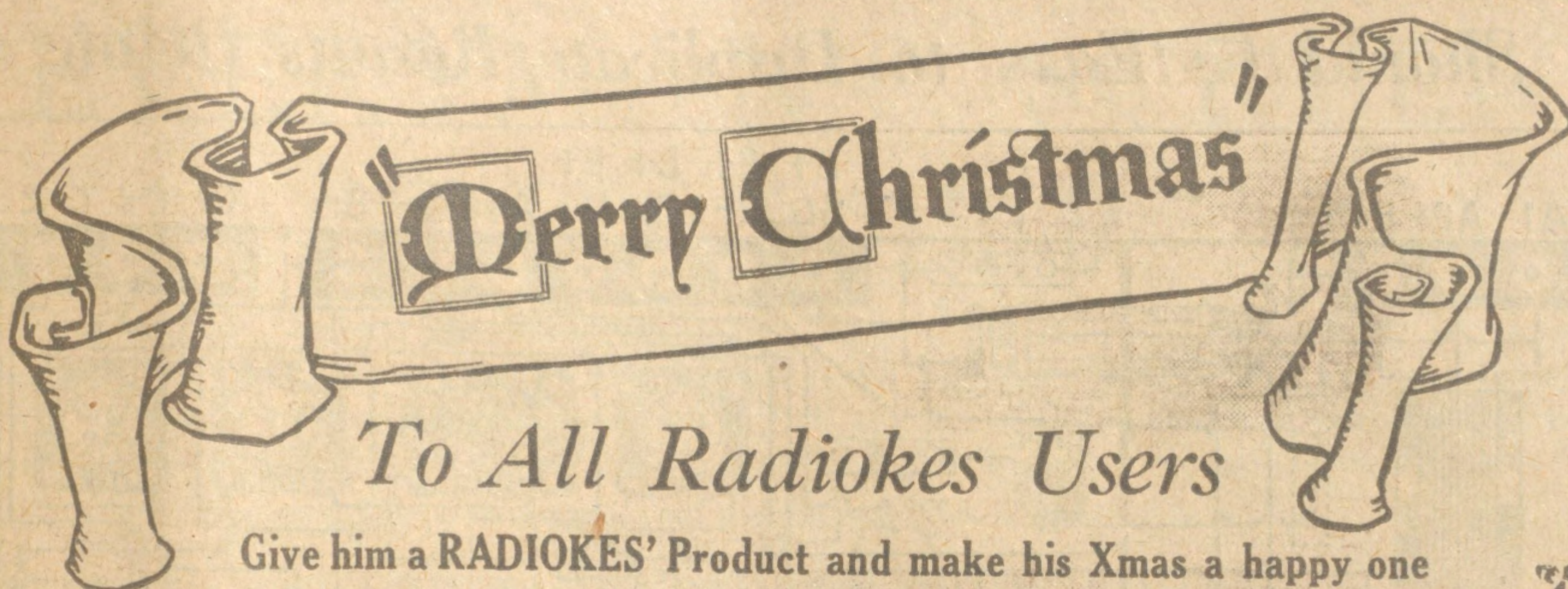
tector valve, with the grid condenser and leak C3 mounted directly on the grid terminal of the socket. Next is the Philips audio transformer in the first stage behind the secondary and reaction coil unit. To the right of this are the first and second audio valves, with the Gecophone transformer in front. A strip of bakelite carries seven terminals for A and B battery supply, and on the right is a separate strip, with three terminals, for the grid bias battery. It will be seen that a 4½-volt C battery is connected directly to the terminals. This is only for illustrative purposes, and a C battery with a 12-volt total is really essential for good quality reproduction.

I have not given a view of the underneath part of the set, and it is sufficient to say that the filter choke and condenser C7 are mounted there at the audio end of the set. All components are fastened to the sub-panel by 1-8-inch bolts and nuts. In the case of valve sockets, the connection from the A negative terminal is made by a short length of wire to the head of the nearest bolt, thus providing the shortest path to the metal, which is A negative, B negative, C positive, and earth.

The wiring of the set is done throughout with 16-gauge tinned copper wire covered with insulating sleeving. Start with the A negative, B negative, and C positive terminals, joining them together. The only rheostat in the receiver is the Bradleystat controlling the filament voltage of the screen-grid valve, so that a lead is taken from these three combined terminals to the A negative terminals of the three U.X. valve sockets and one filament side of the S.G. valve holder.

It will be obvious that the shortest path may be taken with the wiring, as the metal forms part of the filament circuit, so that the following are connected to the metal at the nearest





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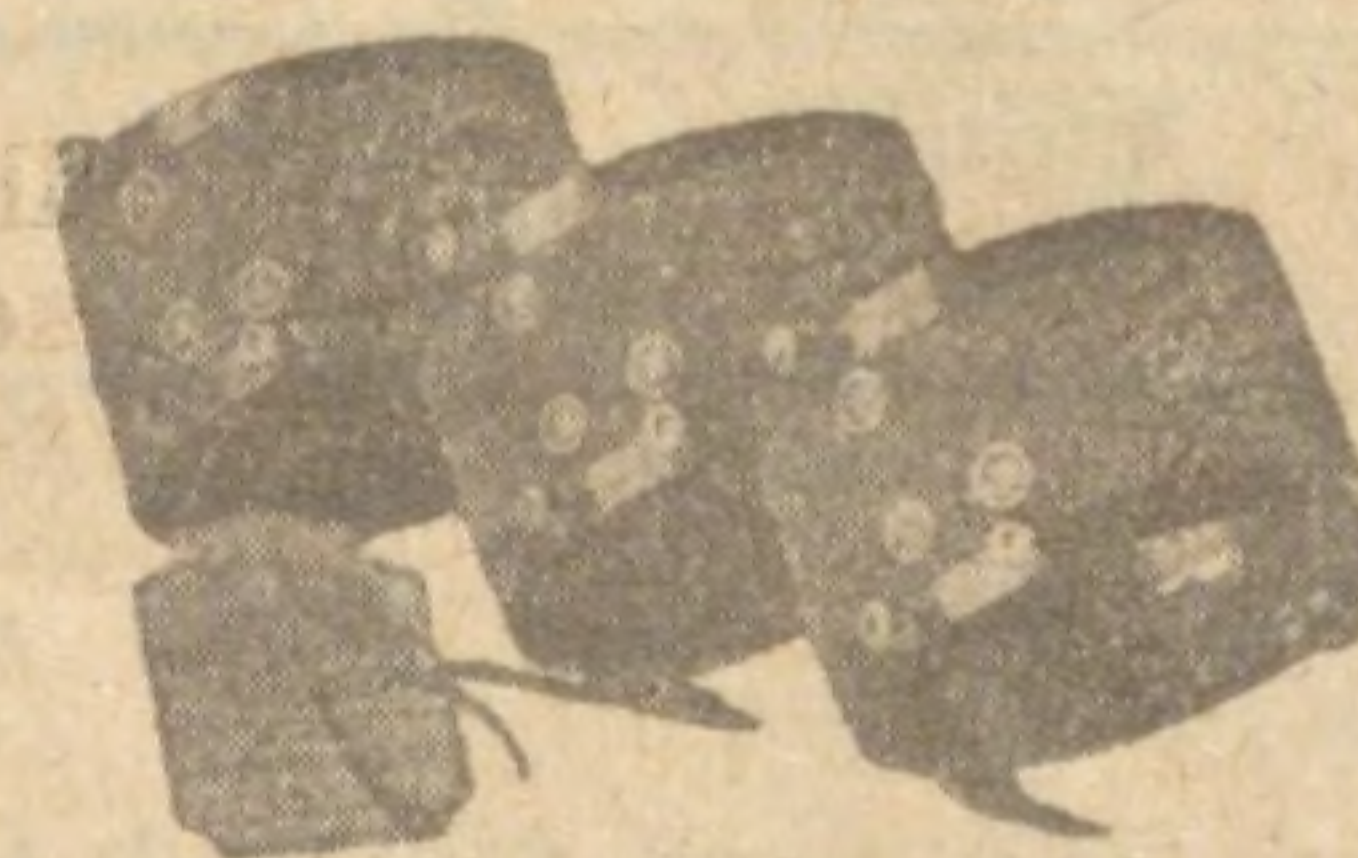
### SHORT-WAVE TUNER.



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.

### MASTER NEUTRODYNE.

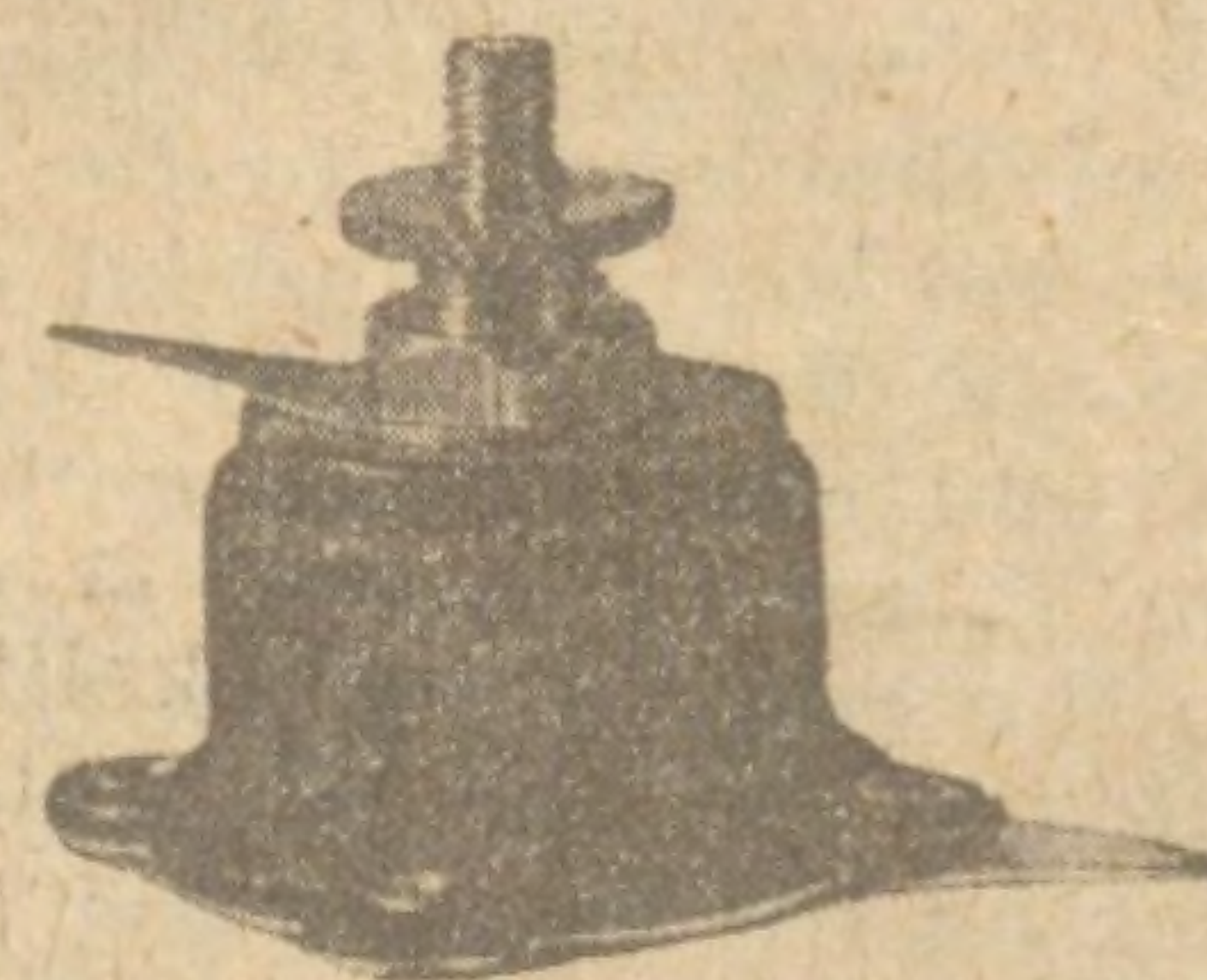


Radiokes Master Neutrodyne, £1/12/6 per Kit.

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

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.



Radiokes New Neutraliser, 4/9 each.

### 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.

### 1928 BROWNING-DRAKE.

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.

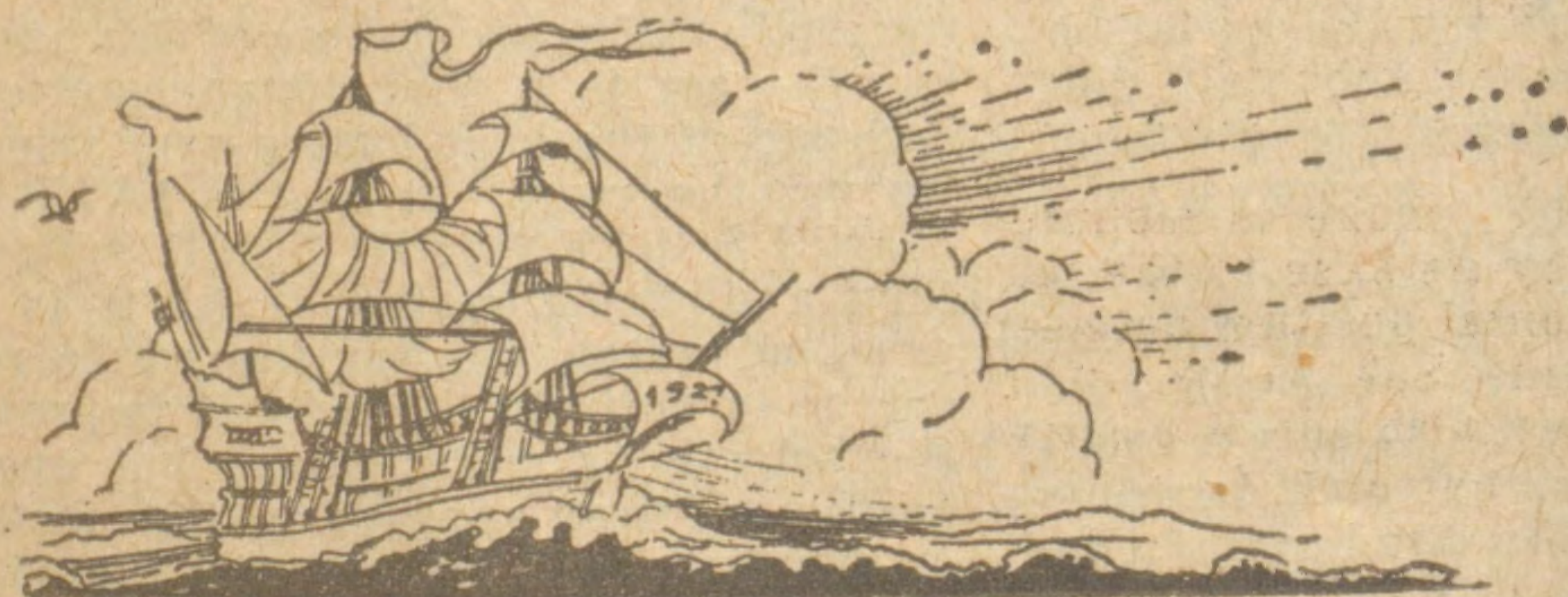


Radiokes Master Browning-Drake, £2 per Kit.

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

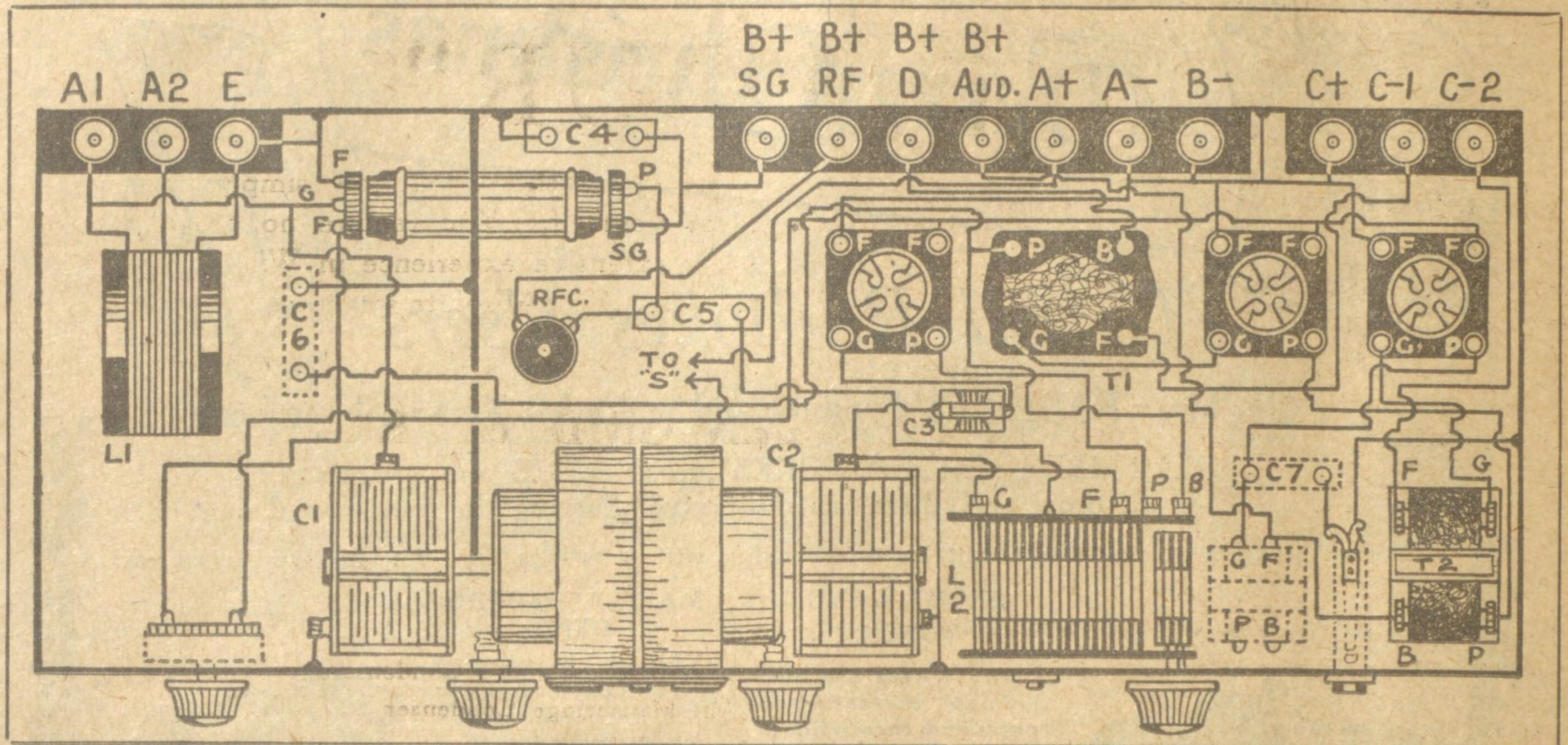
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## Should be Easy to Duplicate Results Below



point:—The mounting side of the single-circuit jack, one side of C6 (.001), the rotors of C2 and C1, the filament end of L2, and one end of L1. A busbar lead is next taken from the A positive terminal to one side of the battery switch, continuing from the other side to the A positive terminals of each valve, excepting the S.G. valve, where it is connected through the Bradleystat to the other side of the holder. The aerial coil is marked in the diagrams A1, A2, and E. From one end of the coil (A1) connection is made to the stator of C1 and to the control grid of the S.G. valve, which is the centre connection of the three on the filament end of the holder.

Next join one side of the by-pass condenser C4 (.5 mfd.) to the A positive lead, and the other side of this condenser to the screen-grid, continuing to the B positive S.G. terminal on the strip. The next procedure is to join the plate of the S.G. valve to one side of C5 (.5 mfd.) and the R.F. choke (R.F.C.) with the other side of the choke to the B positive R.F. terminal. The other side of C5 is then connected to the centre tapping of L2. If you wish to be certain of keeping R.F. from the audio amplifier, you may include a radio frequency choke in series with the primary of the Philips transformer T1. Connect terminal G of the secondary (L2) to the stator of C2 (C1 and C2 are .0005 mfd.) and to the grid condenser and leak C3, and thence to the grid of the detector valve. The plate of this valve is joined to P of the reaction coil, with B to terminal P of T1. Terminal B of T1 links up with the B positive D terminal on the strip. C negative 1 on the strip is next connected to C— of T1, with G to the grid of the third valve (first audio). From the B positive audio on the strip

a lead is then taken to B of T2, and also to one side of the filter choke under the sub-panel. Connect the plate of the third valve to P of T2, and the plate of the fourth valve to the other end of the filter choke and one side of C7 (2 mfd.).

The other side of this by-pass condenser is then connected to the other side of the single-circuit jack. The remaining wiring is to connect the grid terminal of the last valve to G of T2, with A negative to the C—2 terminal of the C battery strip. Use the 6-volt valves recommended, and 120 volts of B battery. The plate of the screen-grid valve requires normally the same as the audio valves, but may be varied a little for best results. It is important that the screen-grid voltage is 80 volts, or as near as possible. For this reason it is an advantage to use B batteries with a reasonable voltage variation for the tapings.

The detector will operate best with 60 volts on the plate. Give the first audio stage approximately 6 volts negative bias and the second 12 volts, although you will probably find that these voltages may be considerably reduced without any ill-effect on reproduction. On connecting up the batteries and aerial-earth and plugging in the loud speaker the set should function perfectly, without any trouble. If the selectivity is not as good as you require try the aerial on tap A2; and remember, above all, that a long and high aerial is a waste of time with the EVERYMAN'S SCREEN-GRID FOUR.

If selectivity is still not up to your wishes, then remove the earth connection, and you will lose only a small amount of energy, but will increase the selectivity. The Bradleystat controlling the filament of the R.F. valve

makes an excellent volume control, and there is no need for any variable resistor across the secondary of the first audio stage—it would be superfluous.

The tuning is very easy. Start by putting the detector into oscillation and rotating the reaction coil until you hear the swish of oscillation. Locate the carrier wave or whistle of a station, and then back off the reaction. Adjust the R.F. tuning condenser C1 until the circuits are in resonance and amplification increases. The increase will not be half-hearted if you have built the set properly; it will be very considerable. With the coils used in the original described here, the circuits matched up perfectly, both dials of the Emmco drum controls reading alike for each station, but this will vary, of course, with individual receivers owing to capacity of wiring or different coils.

This is one of the easiest of screen-grid receivers to build and put into operation, and there is not the slightest reason why all who build it should not duplicate my own results at once. I do not want readers to think that there is anything experimental about this circuit.

It is a standard arrangement applicable to the use of the screen-grid R.F. amplifier, and has been proved many times in my own instance, and in scores of other cases. Not only is the quality of reproduction of the best, but the set is a real distance-getter, and one of the best I have ever tried. To get the most out of the EVERYMAN'S SCREEN-GRID FOUR with a long and well-elevated aerial it is a great advantage to box the whole receiver in entirely. This will improve the selectivity enormously; but even as the receiver appears in the photographs you will be surprised at its performance on a small indoor aerial.



# "EVERYMAN'S SCREEN GRID FOUR"

Come and see us! Without obligation, we will be delighted to show you how simply and how cheaply you can build a most efficient Radio Receiver for yourself. You require no great knowledge. We gladly offer you every assistance. With our extensive experience in Wireless matters behind you, success is assured, without the slightest risk of failure. Absolute satisfaction guaranteed.

Below is a List of Parts suitable for Building the Receiver described in this issue.

## "EVERYMAN'S SCREEN GRID FOUR"

### Parts Required.

	£	s.	d.		£	s.	d.
2 Pieces Aluminium, 16-gauge, 24 x 8 .....	0	10	0	1 Wetless .00025 Condenser and Leak ..	0	3	0
1 Piece Aluminium, 16-gauge, 8 x 6 .....	0	1	3	1 Wetless .001 Condenser .....	0	1	6
1 Emmco Double Drum Condenser, with 2 .0005 Condensers .....	3	17	6	1 Radiokes R.F. Choke .....	0	8	6
1 Radiokes Standard Centre-tapped Aerial Coil	1	5	0	2 .5 Mansbridge Fixed Condensers .....	0	10	0
1 Radiokes Standard Three-circuit Bayer Kit..	1	5	0	1 2Mf. Mansbridge Condenser .....	0	7	0
1 Rheostat .....	0	3	6	13 Terminals .....	0	3	3
1 Battery Switch .....	0	2	0	1 Osram S625 Valve, with Holder .....	1	15	0
1 Single Circuit Jack .....	0	1	7	1 Six-Sixty 610P Valve .....	0	13	6
1 Philips' Transformer .....	1	7	6	2 Mullard PM6 Valves .....	1	7	0
1 Geco 4-1 Transformer .....	1	15	0	18 Lengths 16-gauge Wire .....	0	1	3
OR 1 Ferranti AF3 Transformer .....	2	5	0	3 Lengths Spaghetti .....	0	1	3
1 A.W.A. Super-Audio Choke .....	0	18	0	1 Length Solder .....	0	0	3
				3 Dozen ½ x ⅛ inch Brass Screws, with Nuts..	0	2	0

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	£	s.	d.		£	s.	d.
Crystal Sets, complete with all accessories, from	3	15	0	3-Valve Sets, with all Accessories and Speaker	18	15	0
Single Valve Sets, complete, etc. ....	4	10	0	4-Valve Sets, complete with all Accessories ..	28	0	0
2 Valve Sets, complete with all Accessories and Speaker .....	15	0	0	5-Valve Sets, complete with all Accessories ..	33	10	0

Built into elegant Cabinets, specially designed to fill their places with dignity in the finest homes.

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"Colmovox" "A" Charger .....	5	10	0	Oldham Rechargeable Battery, 80-volt .....	5	0	0
"Colmovox" "A," "B" Charger .....	6	10	0	Emmco Eliminator .....	10	10	0
Emmco Trickle Charger .....	3	10	0	Emmco Super Eliminator .....	12	12	0
Rectox Trickle Charger .....	5	10	0	Philips' Eliminator .....	9	15	0
Philips' Trickle Charger .....	3	10	0	Philips' B. & C. Eliminator .....	11	15	0
Philco Rechargeable Battery, 80-volt .....	8	15	0	R.C.A. Model 100A Speaker .....	10	10	0
				Amplion A.C. 9 Speaker .....	9	9	0

All Wireless Receivers and Parts may be Purchased on EASY TERMS.

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## Push-Pull Transformers

**For providing large distortionless  
L.F. amplification with moderate  
H.T. voltage**

### Audio Frequency Types

AF3c, Ratio  $1/3\frac{1}{2}$   
Price - - - - 54/6  
AF4c, Ratio  $1/3\frac{1}{2}$   
Price - - - - 39/-  
AF5c, Ratio  $1/3\frac{1}{2}$   
Price - - - - 63/-

### Output Types

OP3c, Ratio 1/1  
Price - - - - 47/-  
OP4c, Ratio 25/1  
Price - - - - 47/-  
OP6c, Ratio 1/1  
Price - - - - 36/6



*Push-pull amplification gives the best possible reproduction and is far superior to the standard arrangement. It is well worth the extra cost.*

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# A Push-pull Audio Amplifier of Improved Design

*Outlining in theory and practice, a well-known method of audio amplification. How to get the most out of your transformers.*

SCIENTISTS and engineers have combined in a supreme effort during the last year to produce components enabling better selectivity to be secured, greater distance to be spanned, and, what is probably the most desirable of their achievements, more powerful and more faithful reproduction.

With the advent of valves for every purpose, correctly-designed transformers, and loud speakers capable of handling great volume without distortion, the public have within their reach all the necessary apparatus to build, or rebuild, radio sets and electric phonographs, which will give perfect reproduction of broadcast programmes or gramophone records, and not merely a medley of sounds, which, unfortunately, in the past have been associated with radio.

It is not intended in this article to deal with the many circuits and parts for a complete receiver, but to consider the system of audio amplifica-

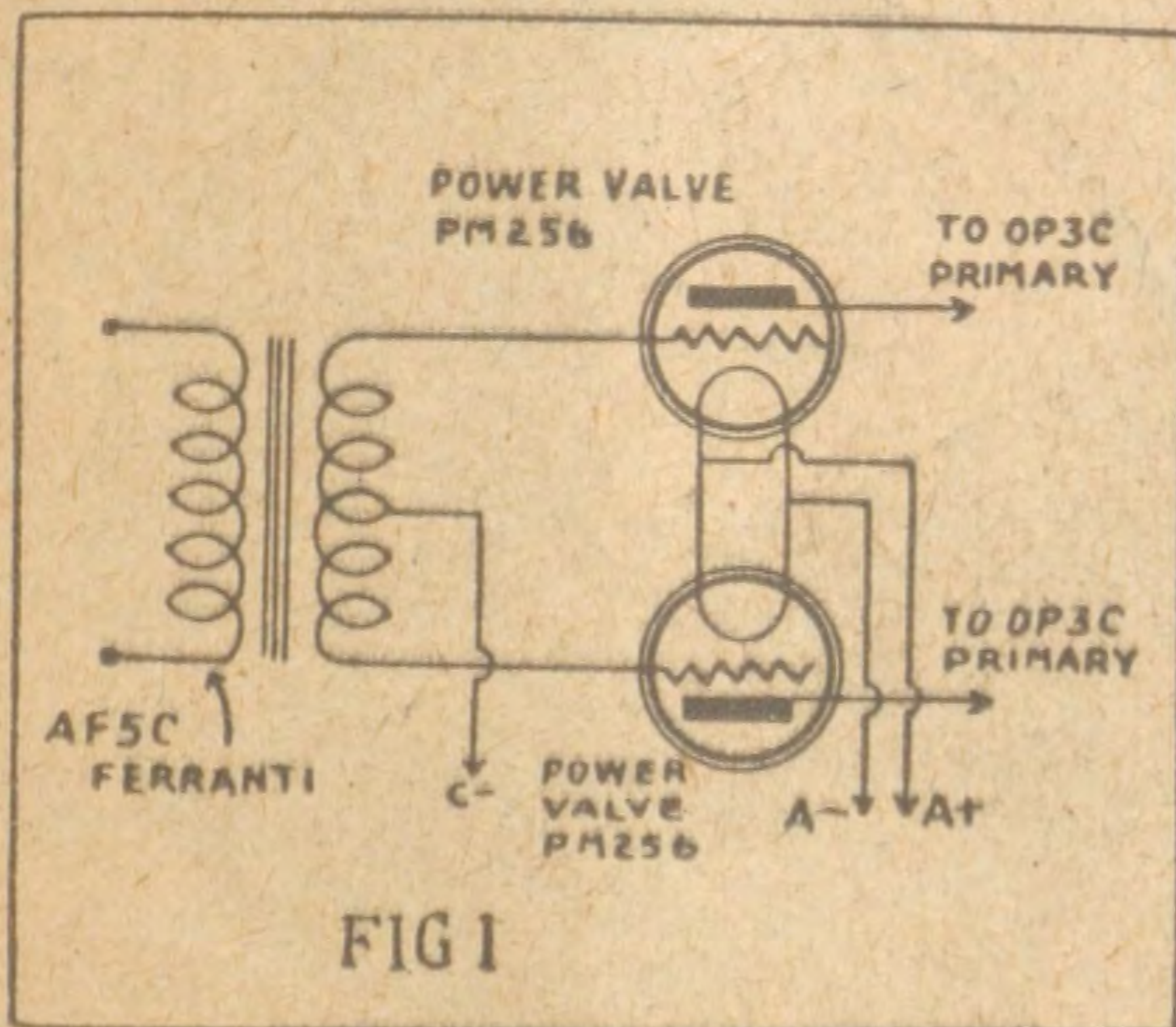
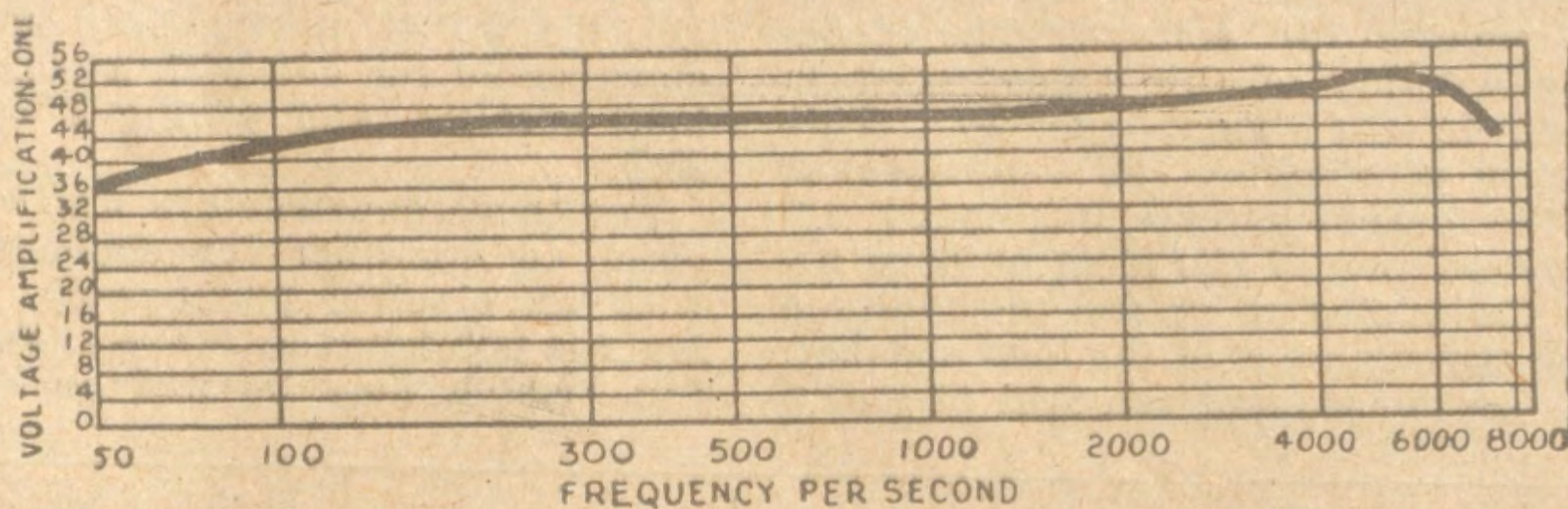


FIG 1

tion. Of the various methods of audio frequency amplification we propose to deal with that known as "push-pull" amplification, which, as the result of considerable research, has proved to be the most successful means of procuring volume together with purity.

Some years back, when radio first became popular as a source of entertainment, phonograph manufacturers were rather inclined to the opinion that broadcasting had sounded their death-knell; but as time went on it was proved that one would help the other, and to-day the two sciences have amalgamated, and we have electrical recording and electric reproducing phonographs. Again, we have combined electric phonographs and broadcast receivers, which have become most popular for home entertainment.

AF3



AF4

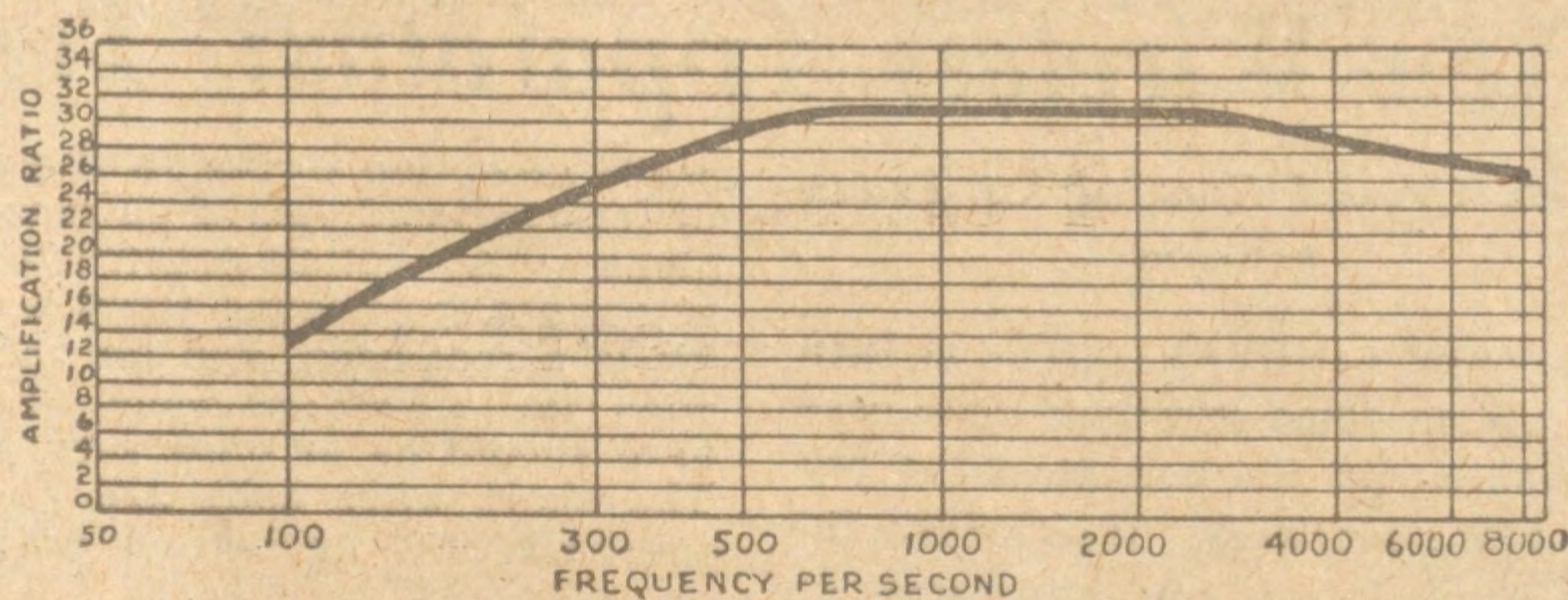
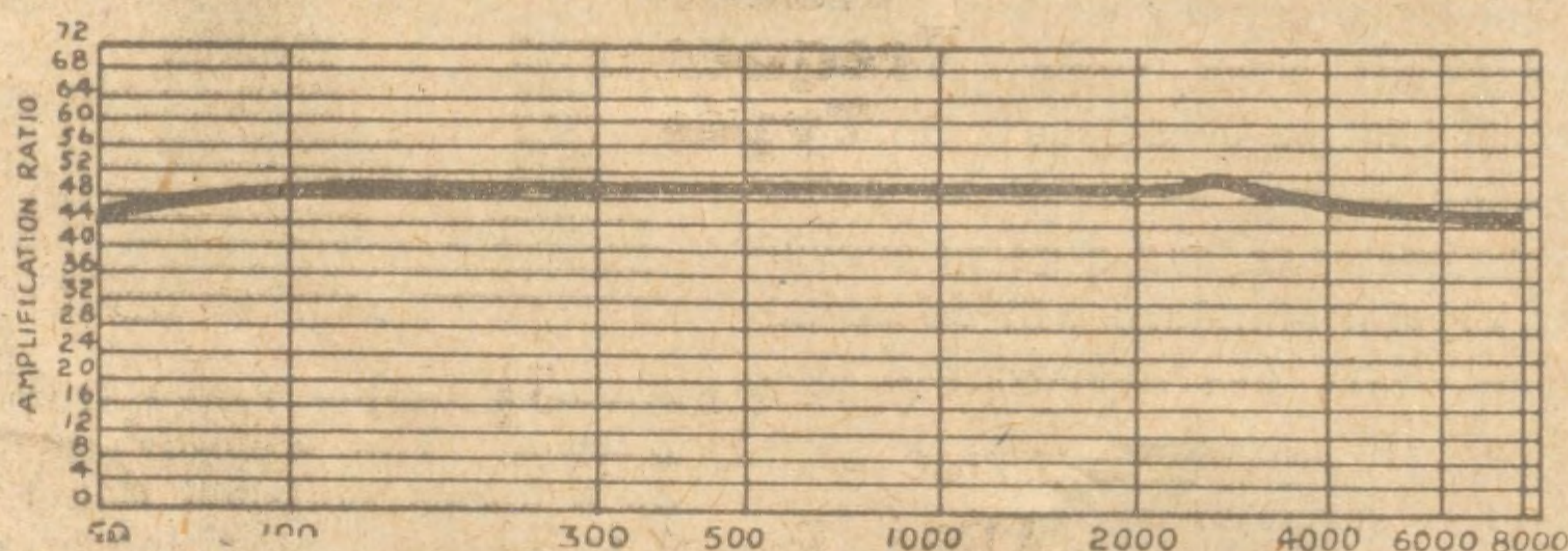


FIG B

AF5



In the construction of a radio set or an electric phonograph the primary consideration should be the audio amplifier, for on this depends the faithfulness of reproduction. Power valves have received a considerable amount of attention of late, and, in conjunction with suitable transformers, pure reproduction of practically any volume may be obtained.

The "push-pull" method of amplification is by no means a new one, but the early transformers, which were poorly designed, have been the subject of considerable attention, and unquestionably one of the finest "push-pull" outfits to be produced is that manufactured by the well-known audio transformer specialists, Messrs. Ferranti, Ltd., of Hollinwood, England.

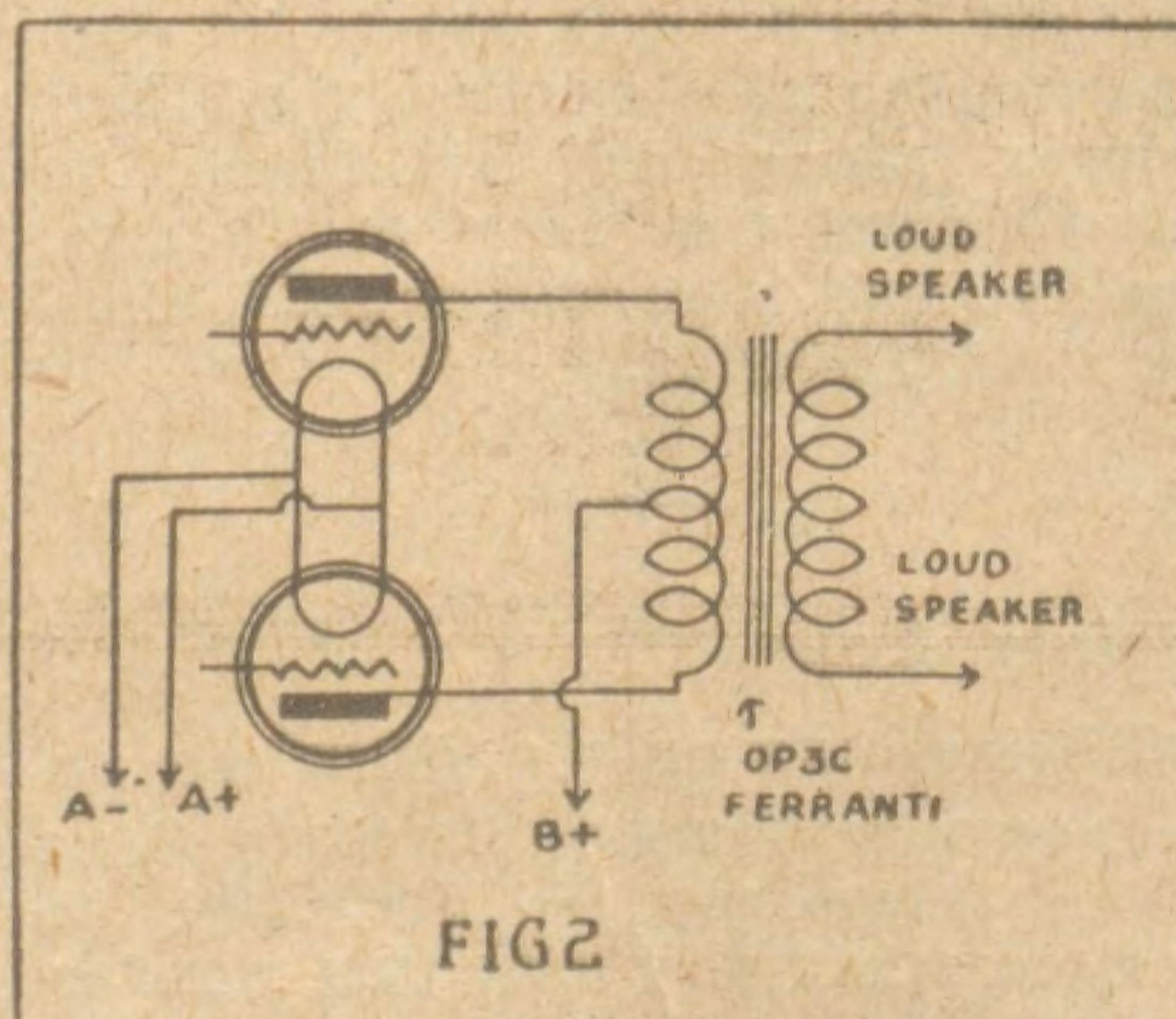


FIG 2

The principle of push-pull amplification is briefly as follows:—The initial impulses, be they derived from a broadcast signal or a phonograph pick-up, are divided equally between two power valves. After a little thought it will become apparent that neither valve will become overloaded, for the permissible grid swing will be doubled, and the danger of distortion taking place through rectification will be overcome. The method of dividing the impulses to the respective grids of the two power valves is accomplished as follows:—A special transformer having a centre tap in its secondary winding is incorporated. The two ends of the secondary winding are connected to the respective grids of the two power valves, and the centre tapping is taken to the grid bias battery. Following Fig. 1, it will be seen that each grid is supplied with the necessary negative bias, whilst the total output of the secondary is divided between each valve.

Messrs. Ferranti, Ltd., manufacture three types of centre-tapped audio transformers—the A.F.3C, A.F.4C, and the A.F.5C—the difference between the three types being the respective amplification curves as per Fig. B. An illustration of the A.F.5C is shown in Fig. A. The output circuit of the amplifier is carried out as per Fig. 2. The plates of the two power valves are connected to the two ends of a



centre-tapped primary winding of another specially constructed transformer, and the centre tap is taken direct to the "B" supply, and thus both plates of the power valves are given the required "B" voltage. The secondary winding of this transformer is taken to the loud speaker. This method of coupling the loud speaker to the output circuit has many advantages, one of the most obvious being the exclusion of the "B" voltage from the windings of the loud speaker, and the consequent removal of strain

and possibility of burn-out. Messrs. Ferranti manufacture three types of push-pull output transformers, the O.P.3C, O.P.4C, and O.P.6C. Both the O.P.3C and O.P.6C have a ratio of 1/1, the O.P.4C having been specially constructed for use with a coil-driver loud speaker, and having a ratio of 25/1.

For those constructors who wish to build an amplifier for exclusive use with an electric phonograph, a diagram is published by Messrs. Ferranti, Ltd., which may be had on request

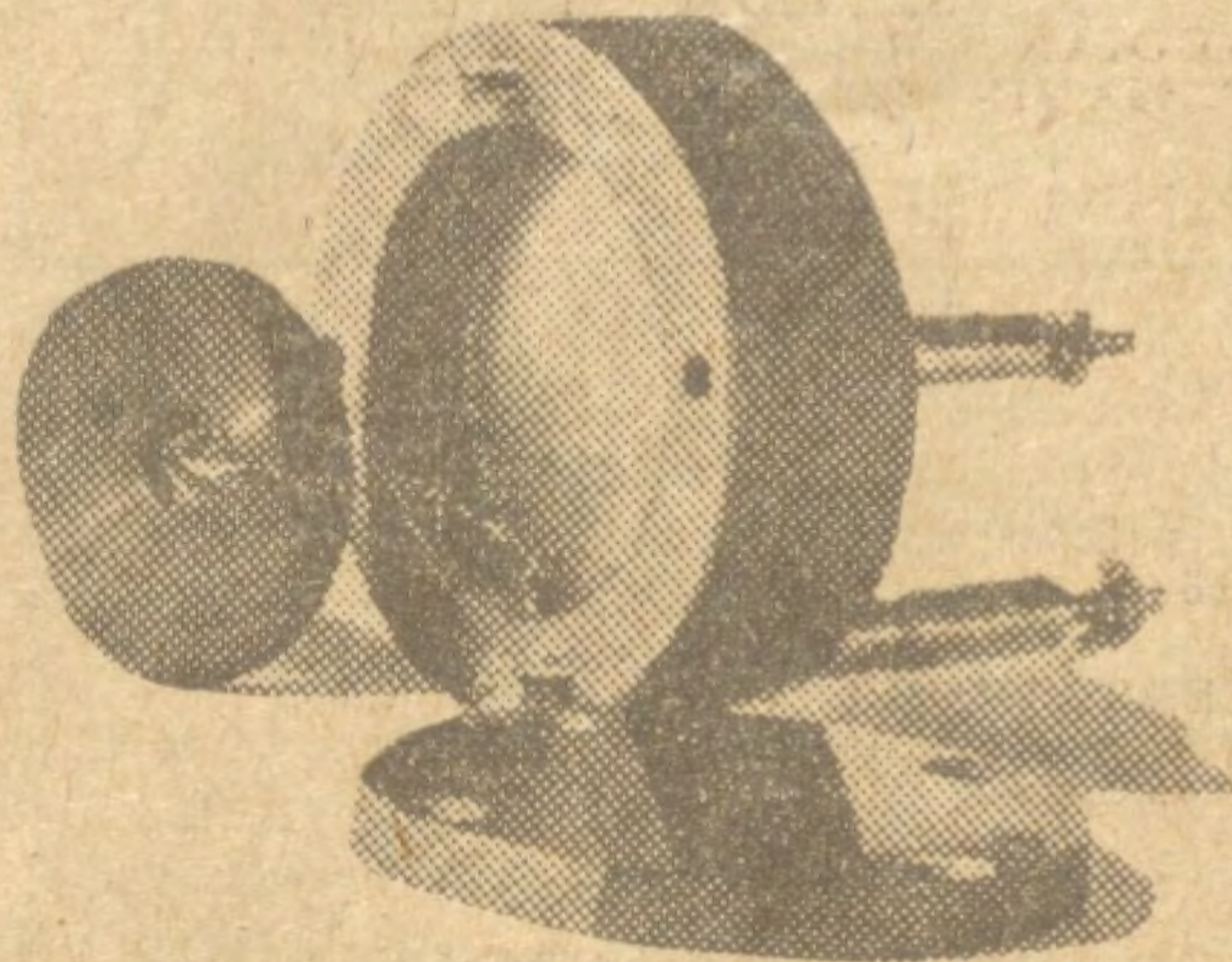
from any radio dealer, or direct from Messrs. A. Beal Pritchett (Aust.), Ltd., 17 Parker Street, Sydney.

Any two similar power valves should be used in the push-pull stages of the amplifier, with due regard to the requirements of the valves in respect to suitable grid bias, etc. As a last word to intending constructors, it is pointed out that the specifications laid down in the diagrams must be adhered to in every detail, and the components mentioned utilised, if satisfactory results are required.

## New Wireless Apparatus: Tested and Approved

### Quartz Crystal Control for Transmission

MR. DON LINDSAY (2DY) is turning out some excellent little crystal holders for the benefit of his brother brass-pounders. 1929 brings the new regulations along, and most advanced transmitters are contemplating installing crystal control to help international work along. It is a certainty that on occasions a standard frequency station is liable to suffer from interference, and a quick change of the crystal standard will be an advantage. 2DY has devised the neat

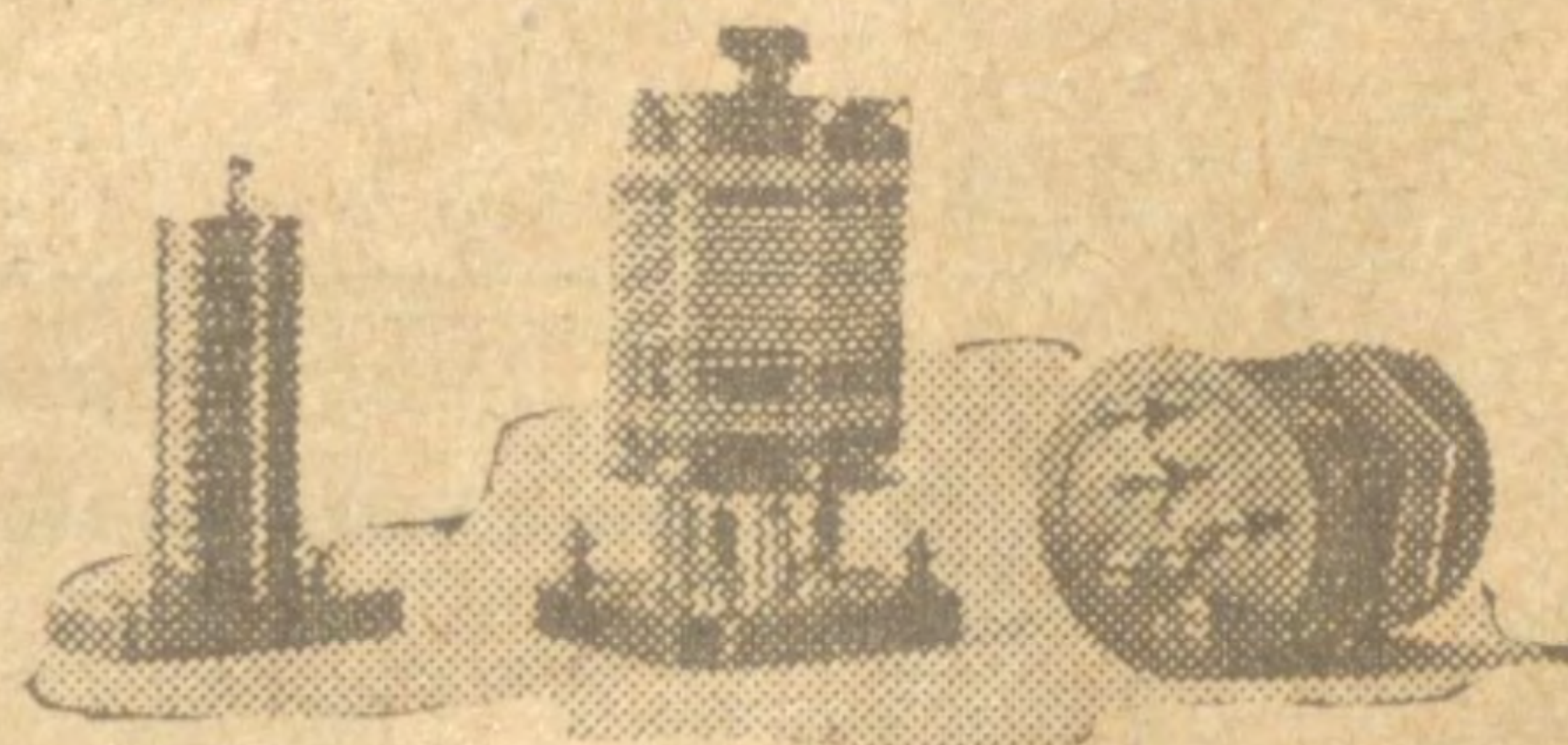


holder shown in the photograph. The crystal and plates are entirely enclosed in a machined bakelite casing, which is arranged with a plug mounting. The operator running a crystal control station in 1929 will, on receipt of a report of interference with his transmissions, only need to remove the crystal holders and plug in the next . . . retune slightly . . . and transmission is resumed on a slightly different frequency! Our Australian experimenters are truly original!

### Recent Lewcos Arrivals

THE name LEWCOS is symbolic of high quality wireless essentials and following on the LEWCOS solodyne and 1928 solodyne coil kits, it is our pleasure to bring before readers' notice some new productions of this progressive British company. Ninety-nine out of a hundred listeners to-day have some degree of interest in short-

wave reception owing to the success of international relays on many occasions. A solidly-constructed and scientifically-designed short wave coil kit is a real boon, and for these reasons the LEWCOS coils illustrated here should be at once very popular. The short wave coils are known as the LEWCOS AMS4 and AMSJ, and

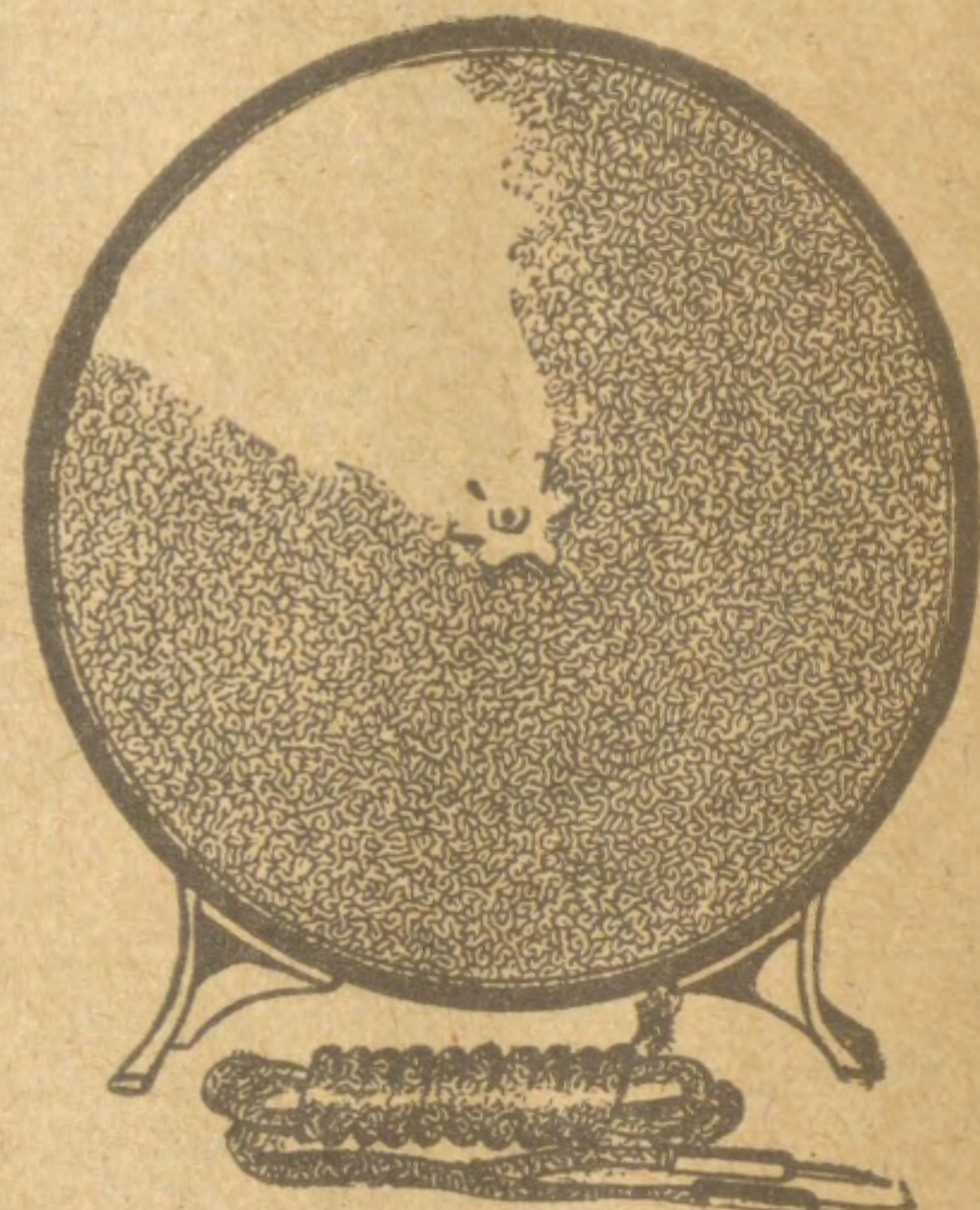


cover a tuning range from 20 to 90 metres. The windings are mounted on a highly polished Bakelite former, with a six-pin mounting of a standard type. An ivory scale on the top of the coil gives full details in red lettering of the coils and capacities needed. The grid portion of these coils is particularly interesting, being wound with silk-covered copper strip well spaced. The formers are "low loss" in the true sense, as the windings are supported by a fine edged rib of bakelite, there being six ribs in all. The LEWCOS short wave coils are of the type it would be difficult to damage with normal handling, and the neat hand knob on the top allows ready withdrawal from the mounting. Also suitable for short wave work is the LEWCOS RF choke illustrated. It has an efficient choking range with a self capacity of 1.62 micro micro farads, and is guaranteed equally efficient at all wave lengths, from 20 to 600 metres, thus catering for the needs of all. The manufacturers of LEWCOS components are to be congratulated on the excellency of their products, which are obtainable in Sydney from the London Electric Wire Co., and Smiths, Ltd., 233 Clarence Street, Sydney.

### Six-sixty Cone

THE heading on the literature accompanying the Six Sixty Cone Speaker says:—"You will be surprised when you hear this wonder-

ful speaker." The model handed to us for test bore out this statement amply, and convinced us that here was a good low-priced loud speaker which should have a popular appeal. Six Sixty valves are now well known to "Wireless Weekly" readers, being used in many of the technical constructive articles, and the quality of the Six Sixty Speaker is in keeping with the valves. We found that the Six Sixty Speaker covered a wide range of audio frequencies with a fine richness of reproduction. Its appearance is particularly attractive, the cone being finished in gilt and the pedestal mounting fitted with rubber feet. These speakers are also available in a cabinet type, and the price respectively is



£2/5/ and £4/4/ from the agents, S. Segal and Co., Ltd., Leitch House, York Street, Sydney.

### Ferranti Prices

WE desire to correct an error which occurred in a full-page advertisement for the above line, which appeared in our issue of December 7. The price was erroneously shown as £5/10/, while it should have been £4/15/.



# Radio Eisteddfod Results

Conducted through Stations 2FC and 2BL, October-November-December, 1928.  
The following is a complete list of the winners and the prize money awarded, also those highly commended.

## CHORAL SECTION

### SECTION 1.

**CHURCH CHOIR, WON BY NO. 1.**—The Randwick Presbyterian Church Choir, c/o Mr. G. W. Sherring, 10 Church Street, Randwick.  
Cash prize, £10. Studio engagements, £15. Total, £25. And a baton to the conductor, Mr. G. W. Sherring.

### SECTION 2.

**MIXED CHOIR, WON BY NO. 1.**—The Ashfield Choral and Musical Society, c/o Mr. A. G. Bollinge, hon. sec., 10 Carlisle Street, Ashfield.  
Cash prize, £10. Studio engagements, £15. Total, £25. And a baton to the conductor, Mr. W. E. Bowyer, 129 Castlereagh Street, Sydney.

### SECTION 2A.

**CHILDREN'S CHOIR, WON BY NO. 5.**—Linden Court Juvenile Choir, conducted by Miss May Cooper, Linden Court, Stanley Street, Bankstown.  
Cash prize, £4. Studio engagements, £6. Total, £10.

### SECTION 3.

**MALE CHOIR, WON BY NO. 2.**—The Illawarra Male Voice Choir, c/o Mr. Richard Jones, secretary, Norman Street, West Wollongong.  
Cash prize, £10. Studio engagements, £15. Total, £25. And a baton to the conductor, Mr. Gideon Easton.

### SECTION 4.

**FEMALE CHOIR, WON BY NO. 4.**—Bennett North's Female Choir, 327 George Street, Sydney.  
Cash prize, £10. Studio engagements, £15. Total, £25. A baton to the conductor, Mr. Bennett North.  
Highly commended: No. 1, "The Enterprisers" Female Choir, conducted by Mrs. Percy Bates, "Beverley," Angel Road, Strathfield.

### SECTION 5.

**MIXED QUARTET, WON BY NO. 5.**—May Craven's Quartet, Rawson Street, Epping.  
Cash prize, £3. Studio engagements, £12. Total, £15.

### SECTION 6.

**MALE QUARTET, WON BY NO. 5.**—Radio Male Quartet, c/o Mr. H. A. Small, 56 Eastern Avenue, South Kensington.  
Cash prize, £3. Studio engagements, £12. Total, £15.

## VOCAL SECTION

### SECTION 7.

**SOPRANO SOLO, WON BY NO. 25.**—Miss Ivy Green, 80 Gibbes Street, Rockdale.  
Cash prize, £2. Studio engagements, £22. Total, £24.  
Highly commended: No. 46, Miss Edith Martin, 54 Minter Street, Canterbury; No. 45, Miss Agnes Marjorie MacDiarmid, Queen and Yaralla Streets, Concord West.

### SECTION 8.

**MEZZO-SOPRANO SOLO, WON BY NO. 37.**—Miss Amy Alexandra Firth, "Tarawera," Hillside Crescent, Epping.  
Cash prize, £2. Studio engagements, £22. Total, £24.  
Highly commended: No. 73, Miss Hilda Rae Nelson, "Bowral," Altona Street, Abbotsford; No. 222, Miss Ida Horwood, High Street, Granville.

### SECTION 9.

**CONTRALTO SOLO, WON BY NO. 32.**—Miss Hazel Lotte Macpherson, 102 Gloucester Road, Hurstville.  
Cash prize, £2. Studio engagements, £22. Total, £24.  
Highly commended: No. 33, Miss Winifred Alice McBride, "Nyanza," Queen's Road, Fivedock; No. 96, Miss Violet Louisa Hunt, 25 Euroka Street, Northbridge.

### SECTION 10.

**TENOR SOLO, WON BY NO. 29.**—Mr. Leo Rowan, 22 Federal Avenue, Ashfield.  
Cash prize, £2. Studio engagements, £22. Total, £24.  
Highly commended: No. 47, Mr. Leo Ralph Lewin, Gordon Road, Lindfield; No. 49, Mr. Robert Mylchreest, 39 King Street, Rockdale.

### SECTION 11.

**BARITONE SOLO, WON BY NO. 73.**—Mr. Theodore Atkinson, 192 Arden Street, Coogee.  
Cash prize, £2. Studio engagements, £22. Total, £24.

## The final results of the Radio Eisteddfod recently conducted by the N.S.W. Broadcasting Company.

Highly Commended: No. 1, Mr. Edwin Pulan Barraclough, 14a Shadforth Street, Mosman; No. 78, Mr. George Trail, "Bon-acord," 15 Fletcher Street, Marrickville.

### SECTION 12

**BASS SOLO, WON BY NO. 23.**—Mr. Frederick John Todd, 12 Somerset Street, Mosman.  
Cash prize, £2. Studio engagements, £22. Total, £24.

Highly Commended: No. 20, Mr. Robert Stevenson, 13 Napier Street, Petersham; No. 40, Mr. Jack Kinson, 15 Roslyn Gardens, Darlinghurst.

### SECTION 13

**DUET (any voice) WON BY NO. 13.**—Mr. Ambrose Bourke and Miss Mary McCormack, 21 Flower Street, Maroubra.  
Cash prizes, £3 (inclusive). Studio engagements, £21. Total, £24.

## VOCAL CHAMPIONSHIP

### SECTION 34

**GRAND VOCAL CHAMPIONSHIP, WON BY NO. 19.**—Miss Alicia Viola Haywood, 108 High Street, North Sydney.  
Cash prize, £25.  
Highly Commended: No. 63, Mr. Rex Harrison, c/o A. A. Kelly and Co., 70 Pitt Street, Sydney; No. 8, Miss Fosse Brakell, Gladstone Avenue, Woolwich.

## INSTRUMENTAL SECTION PIANOFORTE

### SECTION 14

**CHAMPION PIANOFORTE SOLO, WON BY NO. 15.**—Miss Dagmar Roberts, 35 Bancroft Avenue, Roseville.  
Cash prize, £9. Studio engagements, £21. Total, £30.  
Highly Recommended: Miss Ida Tear, 28 Homebush Road, Strathfield.

### SECTION 15

**PIANOFORTE SOLO (under 16 years) WON BY NO. 13.**—Miss Edith Elizabeth Harrison, 206 Sailor's Bay Road, Northbridge.  
Cash prize, £2. Studio engagements, £9. Total, £11.

## VIOLIN

### SECTION 16

**CHAMPION VIOLIN SOLO, WON BY NO. 2.**—Mr. Vincent Aspey, 5 Dalwood, Premier Lane, off William Street, City.  
Cash prize, £9. Studio engagements, £21. Total, £30.  
Highly Commended: No. 3, Mr. Fred Amis, 129 Leichhardt Street, Waverley.

### SECTION 17

**VIOLIN SOLO (under 16 years) WON BY NO. 17.**—Miss Nancye Rouse, 26 Wellington Street, Newtown.  
Cash prize, £2. Studio engagements, £9. Total, £11.

## 'CELLO

### SECTION 18

**'CELLO SOLO, WON BY NO. 2.**—Mr. David McKissock, 244 Beamish Street, Campsie.  
Cash prize, £3. Studio engagements, £12. Total, £15.

## BAND INSTRUMENTS

### SECTION 20

**B. FLAT CORNET SOLO, WON BY NO. 4.**—Mr. Christopher George Faulkner, 23 Osgood Avenue, West Marrickville.  
Cash prize, £2. Studio engagements, £12. Total, £14.

### SECTION 21

**SAXOPHONE SOLO, WON BY NO. 17.**—Mr. Josef Kaartiner, 249 George Street, Sydney.  
Cash prize, £2. Studio engagements, £12. Total, £14.

## DANCE BAND

### SECTION 22

**DANCE BAND (not fewer than 6 players) WON BY NO. 3.**—Castle Palais Dance Orchestra, conducted by Mr. Victor Wells, 424 Unwin's Bridge Road, St. Peters.  
Cash prize, £7. Studio engagements, £35. Total, £42.

Highly Commended: No. 1, Blue Bird Orchestra, conducted by Mr. John Toohey, 30 Grassmere Road, Killara; No. 22, Manhattan Dance Band, conducted by J. J. Kalucy, "Nara," 10 Laycock Street, Neutral Bay.

## ELOCUTIONARY

### SECTION 23

**RADIO SKETCH, WON BY NO. 7.**—Zena and James Kendall, 57 Paling's Buildings, Ash Street, Sydney.  
Cash prize, £4. Studio engagements, £24. Total, £28.

### SECTION 24.

**ORIGINAL RADIO PLAY, WON BY NO. 11.**—Miss Gertrude Dalley-Scarlett, "Koo-yong," Innes Road, Greenwich.  
Cash prize, £5.

Highly Commended: No. 13, Mr. Gordon Whitton, Western Road, Prospect, N.S.W.; No. 8, Mr. Frank Meddows, "Douglas," Darvell Street, Crow's Nest.

### SECTION 25.

**DEBATE, WON BY NO. 3.**—Sydney School of Arts Debating Club, c/o Mr. E. W. Harris, secretary, Pitt Street, Sydney.  
Cash prize, £4; studio engagements, £16; total, £20.

### SECTION 26

**IMPROMPTU ANNOUNCER, WON BY NO. 12.**—Mr. Cecil Hiley Hall, Barcoo Street, Roseville.  
Cash prize, £3.

Highly Commended: No. 55, Miss Dorothea Florence Vautier, 48 Ben Boyd Road, Neutral Bay; No. 8, Mr. Brunton Gibb, Paling's Buildings, Ash Street, Sydney.

## POPULAR

### SECTION 27

**POPULAR VOCALIST (MALE OR FEMALE) WON BY NO. 25.**—Berenice Patterson, "Arwon," 75 Victoria Street, Lewisham.  
Cash prize, £2; studio engagements, £18; total, £20.

### SECTION 28

**COMEDIAN, WON BY NO. 4.**—Mr. CLIFF GANE, 61 Belmore Road, Hurstville.  
Cash prize, £2; studio engagements, £12; total, £14.

### SECTION 29

**RADIO REVUE, WON BY NO. 1.**—The Blue and Gold Dandies, c/o Lenore Graham, Room 132 Royal Arcade Chambers, 492 George Street, Sydney.  
Cash prize, £10; studio engagements, £40; total, £50.

### SECTION 30.

**ENTERTAINERS, WON BY NO. 5.**—Leo Sibley and Roy Sayles, "Roslyn," Arcadia Street, Coogee.  
Cash prize, £3; studio engagements, £18; total, £21.

## AUSTRALIAN COMPOSITIONS

### SECTION 31

**BEST ORIGINAL SONG, WON BY NO. 104.**—Mrs. Varney Desmond Monk, 37 Raglan Street, Mosman.  
Cash prize, £10.

### SECTION 32.

**BEST ORIGINAL PIANOFORTE COMPOSITION, WON BY NO. 29.**—Mrs. MILLY GORDON DE GROEN, Fairfax Road, Mosman.  
Cash prize, £10.

### SECTION 33

**BEST ORIGINAL VIOLIN COMPOSITION, WON BY NO. 4.**—Mr. Edwin J. C. Phillips, 39 Silver Street, St. Peters.  
Cash prize, £10.  
The winning composition in each of these three sections (31, 32, and 33) will be published by W. H. Paling and Company, Limited.

## JUVENILE SECTION

### SECTION 27A

**CLASS "A," UNDER 8 YEARS, WON BY NO. 9.**—HILARY OSBORNE, Highclere Avenue, Punchbowl.  
Cash prize, £2.

### SECTION 27A

**CLASS "B," OVER 8 YEARS AND UNDER 15 YEARS.** Four Prizes of £1 each to the following children (in alphabetical order):—No. 58, GWENYTH BRODIE, 122 Atchison Street, Crow's Nest; No. 16, ETHEL EVERY, 77 Curtis Road, Balmain; No. 127, Evelyn Frith, Boolaroo, near Newcastle; No. 55, Mary Wilson, 42 Fern Street, Randwick.

(See Paragraph on Page 31.)



# Radio Books for Xmas Gifts

**F**IVE EXCELLENT books dealing with the various phases of radio are now available to the public. These books cover an exceedingly wide range, and would be the very thing for a Christmas present to the radio enthusiast.

"1001 RADIO QUESTIONS AND ANSWERS" will appeal to the enthusiast who desires to know something about everything, rather than everything about something. This book deals with the various problems encountered in the construction of radio sets and components, eliminators, rectifiers, transmitters, chargers, batteries, etc. There are sixty-six standard radio symbols, including all the latest representations for the screen-grid valve, A.C. valve, rectifier, etc. In addition, there are numerous articles dealing with the technical and the non-technical side of radio, which make this book suitable for a present for any boy from 10 to 100.

"THE SUPERHETERODYNE BOOK" will appeal to those who have a superheterodyne receiver, or are considering making or purchasing such a set. The information contained in "The Superheterodyne Book" is invaluable to the man who desires information on the matching of transformers, matching of valves, adjusting the receiver, and so on, all very important points in the superheterodyne. The book contains some several hundred superheterodyne circuits, including the very latest designs, and

the advice contained within the covers of "The Superheterodyne Book" will save the "super-user" many hours of trouble.

"BROADCAST RECEPTION IN THEORY AND PRACTICE."—No better book could be obtained for the man desiring to know just how radio "happens." This book is intended for that large and growing class of wireless enthusiasts who wish to do a little more than construct sets from given instructions. It explains in a comprehensive manner the principles of wireless reception, so that the experimenter may not only make the set he requires, but may alter and adjust it with knowledge. At the end of the book appear useful tables and information, which are extremely useful when constructing receivers.

"WIRELESS VALVE TRANSMITTERS" is a book suited more to the amateur transmitter, yet the information contained between the covers is extremely interesting to the fan who desires to make speech amplifiers, etc.—and even more interesting and useful for the fan who desires to become an amateur transmitter. The theory contained in this book is most complete. The aim of "Wireless Valve Transmitters" is to deal in turn with each portion of the complete transmitting equipment, in order that the reader may be able to design and operate his own transmitter, and to derive greater benefit from the technical ar-

ticles appearing in the various wireless publications.

The circuit arrangements dealt with in detail are those which are standard practice or of approved utility; no attempt has been made to include a variety of unusual circuits, since the reader, once having understood the principles of standard arrangements, will be in a position to follow any modifications which may be met with in current wireless articles, and judge their merits from a practical viewpoint.

"THE RADIO AMATEUR'S HANDBOOK" has been recommended through our query columns many times. This book is a mine of information to the man who desires to take part in amateur radio activities, but has no idea how to get started. The book is fully indexed, and a glance shows us that, among the many items fully treated, we have transmitters, receivers, morse practice, power transformers, etc., etc. The book commences right from the beginning, and the author has not used technical terms without first explaining them. After the explanation has appeared, however, the word is frequently used, and in this way it is easily remembered. For the fan "swotting" for his A.O.P.C. no better book could be obtained.

Each of the above books was kindly forwarded us by Swains, Pitt Street, Sydney, from whom they are obtainable.

## Inter-State Chain Broadcast

**D**URING recent weeks an experiment has been tried of broadcasting one programme from two stations in different cities. The dance programme of 3LO has been sent over the line to Adelaide, where it was re-broadcast by 5CL.

The results were so satisfactory that more regular arrangements will be made, and thus the advantages of chain broadcasting will be realised. It will be a new departure for Australia, but it is no new idea in other countries. Hitherto we have found each station arranging and broadcasting its own programme; and it not infrequently happened that two or more stations at the same time gave dance music. Under the new arrangements good dance music will be given at a minimum of cost and effort.

It is only by having one controlling management for the different stations that such a scheme could be maintained in operation. And if the central control is in the largest cities the advantages to listeners will be greatest. This has been proved al-

ready in the stations in Adelaide and Hobart since the managerial functions for general direction were centred in Melbourne. Opportunities were opened up to tap the resources of the largest city, and the benefits of close contact with the experience and organisation of a successful company were availed of. It at once suggests itself to one that the idea could be extended with increased advantages to other listeners. In many parts of Australia the service obtained by listeners is far from satisfactory. The cause lies in the distance from the stations giving the sought-for programmes and in the paucity of talent available to the local station.

When it becomes possible for all stations to be joined together by relaying lines or wireless circuits it will not be necessary for every station to maintain its own dance band, large orchestra, or band. Such items will be of general interest in all States, and there is no advantage to listeners in having the local band play if a good, and perhaps better, band can play for them from a city where more

opportunities exist for obtaining the best programmes.

That is the basis of chain broadcasting. The main structure of a programme—the orchestra, the band, specialists in items or subjects of Commonwealth-wide interest—could be obtained in Melbourne or Sydney and sent to all the stations for local broadcasting. The economies that would result by saving the maintenance of several local orchestras, bands, etc., would be available for establishing more stations. Those additional stations would bring the service nearer to the country listeners, and thus improve the conditions of reception for them.

One thing would be important. It would never do to have the Melbourne or Sydney programmes occupying all the time of a station, say, in Perth or Rockhampton. There will always be some local news or item—even musical numbers—which will have a peculiar appeal to the local listeners. Hence it would be necessary to have a certain part of the time of each station open for local items. That scheme of centralised control of programmes and co-ordinated action between station managers was the scheme practically brought to fruition when the Government changed its policy.



## THE SCREEN-GRID SHORT WAVE SUPER

### Parts Required

- 1 Panel, 3 x 8 x 3-16 in. (1 strip 30 x 3 x 3-16 in.).
- 1 Baseboard 30 x 10 x 1 in. Sheet Brass for shielding both.
- 6 Benjamin UX Sockets.
- 2 Philips A415 Valves.
- 3 Philips A425 Valves.
- 1 Philips A409 Valve.
- 1 Gecophone S.L.F. Slow Motion Condenser, .0001.
- 1 Ditto, .00025.
- 1 Vernier De Luxe Dial.
- 2 400 Ohms Yaxley Potentiometers.
- 3 30 Ohms Yaxley Rheostats.
- 1 Shortwave Coil Kit (good quality).
- 2 G.R. Insulators (stand off).
- 1 Foot Hard Rubber Rod, 1/2 in. diameter.

- 1 R.F. Choke (good quality).
- 1 G.R. Intermediate Radio Frequency Transformer.
- 1 G.R. Filter (Superhet).
- 2 .00025 Grid Condensers.
- 2 2-meg. Grid Leaks.
- 1 .001 Fixed Condenser.
- 3 2-mfd. Mansbridge or T.C.C. Condensers.
- 1 AF3 Ferranti Transformer (Audio).
- 3 4 1/2-volt Grid Batteries.
- 1 50-mfd. Micro Condenser.
- 15 Terminals.
- 1 1-1 Ratio Output Transformer (if required).
- Lengths of Spaghetti, Insulation, Busbar, etc.
- Extras for Screen-Grid Unit shown in circuit diagram.

## Inside History of 2BL's International Short-wave Relays

(CONTINUED FROM PAGE 7.)

being fed into a common channel to the control desk of the transmitter. This method prevents a good deal of the fading. As a fade takes place at Aerial No. 1, it is found that the strength at No. 2, about two miles away, is at a maximum, and so on. This arrangement was recently carried out in Sydney, and proved fairly successful.

Some of the relays from my Roseville station have not, during the past few months, been very successful. A continuous power leak in the City Council's supply mains around my station makes it almost impossible at times to hear weak signals.

### OUR LOCAL STATION

GETTING away from the subject of relays. It is very gratifying to note that 2ME, our own Australian Short-wave Station, is getting out so well, and becoming as well known to Great Britain and America as PCJJ, 5SW, KDKA, and WGY are to us.

There has been correspondence in the press recently, apparently criticising the efforts of our local engineers. I have listened with interest to the two-way telephone conversation between 2XAF Schenectady, ANE Java, and 2ME, and have noted the ease with which 2ME is apparently received by these two stations. I believe 2ME has been heard excellently in every country in the world. A listener in Peru has reported that of the seven most important short-wave broadcasting stations in the world, 2ME is the best, so far as clarity and depth of modulation are concerned. Before any listeners criticise the transmissions of our local short-wave broadcasting stations, they should first understand the vagaries of short-wave

reception in close proximity to a powerful short-wave transmitting station. For example, the skip is most pronounced between the southern side of the Harbor and Roseville, so that I find it impossible to receive any of the amateur stations around Bondi, Coogee, and any of the western suburbs, with anything like the signal intensity of American stations.

## Eisteddfod Artists to be Heard

(CONTINUED FROM PAGE 29.)

The Eisteddfod artists will appear at the Town Hall concert on Tuesday evening, December 18, except the following:—

Through 2BL on Wednesday night, December 19, will be heard the winners of the pianoforte solo under 16 years (section 14); violin solo, under 16 years (section 16); cornet solo (section 20); saxophone solo (section 21); radio sketch (section 23); debate (section 25); popular vocalist (section 27); comedian (section 28); and radio revue (section 29); and entertainers (section 30).

Through 2FC, in the childrens' session, on Tuesday evening, December 18, will be heard the winners under section 27A, Juvenile Section classes "A" and "B."

The original Australian play (section 24) will be broadcast through Station 2BL on Thursday evening, December 20.

The juvenile choir (section 2A) will be broadcast through 2BL on Thursday night, December 20.

Interviewed at the close of his work, Mr. Peachell, who adjudicated the choral, vocal, piano, violin, and 'cello sections, said:—

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

The prize money consists of £250 in cash and studio broadcasting engagements to the value of £550. Total in all, £800. These awards will be handed to the winners by the Chief Civic Commissioner, Mr. J. Garlick, on Tuesday evening, December 18, 1928, at the Sydney Town Hall.

## A Future

BEATRICE TANGE, a brilliant pianist, whose future holds such promise, boasts a number of enviable souvenirs among her cherished possessions from famous artists who have visited Australia from time to time, not the least of which is an exquisite study of the boy Cherkassky, whose recent season, a veritable triumph in itself, moved even the most blase of Sydney's musical critics. Shura has a lot of nice things to say about Miss Tange's work, and presages a successful career if she will return to the Continent and study hard—for two years. And what are two short years to the girl who but a short time ago was—we borrow the term—"a fluffy, red-haired student, to be seen at all the worth-while concerts."

## QSL Cards

WE have received a great number of QSL cards from all parts of the world for 2nd District amateurs, who are invited to call in to this office to collect their "wallpaper." Cards are at present held for 2ZY, 2HM, 2NS, 2JH, 2TW, 2LG, 2KT, 2RB, 2KB, 2HC, 2MF, and 2NS. All other QSL cards for distant hams have been forwarded by post.

Irritable Husband: How can you expect to drive a nail into the wall with a hair-brush. For goodness' sake use your head.

Geezer: Do you know anything about flirting?

Wheezer: No. I thought I did, but when I tried it the girl married me.

Customer: Is this a pedigreed dog?

Dealer: Indeed, yes! If this dog could talk he wouldn't speak to either of us.

Acquaintance: You are certainly kind to send your wife away for a rest.

Henpeck: Yes; heaven knows I need it.

Prison Worker: You know, stone walls do not a prison make nor iron bars a cage.

No. 696: Well, if they don't I've been crazy for staying here.

"Daddy, do lawyers ever tell the truth?"

"Yes, my son. Sometimes a lawyer will do anything to win a case."



# Broadcasting Stations

AUSTRALIA.			Metres. Watts.		Metres. Watts.	
New South Wales.					WJZ—National B'casting Co., 195 Broadway, New York ..	
2FC—N.S.W. B'casting Co., Ltd., Market St., Sydney .....	442	5000	5KA—Sport Radio Ltd., 51 Kin- tore Ave., Prospect .....	250 1000	454.3	30000
2BL—N.S.W. B'casting Co., Ltd., Market St., Sydney .....	353	5000	Western Australia.		EUROPE.	
2GB—Theosophical B'casting, 29 Bligh St., Sydney .....	316	3000	6WF—Westralian Farmers Ltd., 569 Wellington St., Perth ..	1250 5000	FL—Eiffel Tower, Paris, France	
2KY—Trades and Labour Council, Goulburn St., Sydney .....	280	1500	Tasmania.		JAPAN.	
2UW .....	267	500	7ZL—Tasmanian B'casters Ltd., 95 Elizabeth St., Hobart ...	535 3000	JOAK—Tokyo Central B'casting Co., Tokyo, Japan .....	
2UE—Electrical Utilities, Ltd., 619 George St., Sydney .....	293	250	NEW ZEALAND.		JOBK—Osaka Central B'casting Co., Osaka, Japan .....	
2MK—Mockler Bros., Hawick St., Bathurst .....	275	250	1YA—Radio B'casting Co. of N.Z., Karangahope Rd., Auk.	333 500	JOCK—Nagoya Central B'casting Co., Nagoya, Japan .....	
2HD—H. A. Douglas, King St., Newcastle .....	288	100	2YA—Radio B'casting Co., Wel- lington .....	420 5000	JODK—Keijo B'casting Co., Keijo, Japan .....	
2BE—Burgin Electric Co., Ltd., 340 Kent St., Sydney .....	316	100	3YA—Radio B'casting Co. of N.Z., Christchurch .....	306 500	DUTCH EAST INDIES.	
Victoria.			4YA—Radio B'casting Co. of N.Z., Dunedin .....	463 750	JFC—Bataviasche Radio, Jereen- ing, Batavia .....	
3LO—Dominions B'casting Co., Ltd., 120a Russell St., Melb.	371	5000	GREAT BRITAIN.		PHILIPPINE ISLANDS.	
3AR—Dominions B'casting Co., Ltd., 120a Russell St., Melb.	484	1600	2LO—British B'casting Co., Savoy Hill, London .....	361.4 3000	KZRM—Radio Corp. of The Philippines, Manila, Philip- pine Islands .....	
3UZ—O. J. Nilson & Co., Bourke St., Melb. ....	319	100	5XX—British Broadcasting Co., Daventry .....	1604.3 5000	KZKZ—Radio Corp. of the Philippines, Manila, Philip- pine Islands .....	
3DB—Druleigh Business College, Melb. ....	255	500	UNITED STATES OF AMERICA.		KZIB—Radio Corp. of the Philippines, Manila, Philip- pine Islands .....	
Queensland.			KDKA—Westinghouse Elec. and Mfg. Co., East Pittsburg, Pa.	315.6 50000	INDIA.	
4QG—Queensland Govt. Radio Service, Brisbane .....	385	5000	KFI—Earle C. Anthony Inc., 1000 So., Hope St., Los Angeles	468.5 5000	7CA—Indian Broadcasting Co., Calcutta .....	
4GR—Gold Radio Service, Mar- garet St., Toowoomba .....	294	100	KGO—General Electric Co., Oakland, California .....	384.4 5000	7BY—Indian Broadcasting Co., Bombay .....	
South Australia.			KOA—General Electric Co., 1370 Krameria St., Denver, Colo.	325.9 5000	SOUTH AFRICA.	
5CL—Central B'casters, Ltd., 59 Franklin St., Adelaide .....	395	5000	WEAF—National B'casting Co., 195 Broadway, New York ..		WAMG—African B'casting Assn., Cape Town, South Africa ..	
5DN—5DN Pty., Ltd., 2-4 Mont- perier St., Parkside .....	313	500	WGY—General Electric Co., So. Schenectady, N.Y. ....	379.5 50000	JB—African B'casting Co., Johannesburg, South Africa,	

## Short Wave Broadcasting Stations

Wavelengths		Wavelengths.		Wavelengths	
AUSTRALIA.		WHAM—Rochester, N.Y. .... Various.		SOUTH AFRICA.	
2ME—A.W.A. (Syd.) station used for 2FC transmissions .....	28.5	WGY—Schenectady, N.Y. ....	15-100	JB—Johannesburg Bd'stg. Co., Cape Town .....	20, 25
2YG—Ray Allsop (Syd.) station used for 2BL transmissions .....	32.5	WIZ—R.C.A., N. Brunswick, N.Y. ....	61.06	JAPAN.	
3ME—A.W.A. (Melb.) station used for 3LO transmissions .....	32.	WJZ—Bound Brook, N.J. ....	Various.	JHBB—Ibarakiken, Japan .....	37.5
4.30 a.m. to 6.30 a.m. every Monday (Melb. time).		WLW—Crossley Radio, Cincinnati ...	52.	JIPP—Tokio, Japan .....	20
6AG—W. E. Coxon (Perth) station used for 6WF transmissions .....	32.9	WOW—Fort Wayne, Indiana .....	22.80	JIAA—Iwatsuki, Japan .....	79
GREAT BRITAIN.		WRNY—Coteyville, N.J. ....	30.91	JKZB—Tokio El. Co., Tokio .....	20
5SW—Marconi Company, Chelmsford, England .....	24	WBZ—Springfield, Mass. ....	70	GERMANY.	
2YT—Poldhu, England, .....	25, 32, 92, 94	8XF—Cleveland, Ohio .....	66.04	AGJ—Naven .....	56.7
2NM—Gerald Marcuse, Queen's Park, Caterham, Surrey, England .....	32.5 and 28 metres	WAAM—Newark, N.J. ....	65.18	POX—Naven .....	70
UNITED STATES.		KFBC—San Diego, U.S.A. ....	65.18	POZ—Naven .....	19
2XAA—Houlton, Maine, U.S.A. ....	21.99	2XAQ—Newark, N.J. ....	65.4	EH9XD—Zurich Radio Club .....	85, 32.
2XAD—G.E.C. Schenectady, U.S.A. ..	21.96	XJ—Colombus, Ohio .....	54.02	AGC—Naven .....	17.2
2XAF—G.E.C. Schenectady, N.Y. ....	32.7	2XBH—Coney Island, N.Y. ....	54.02	NORWAY.	
2ZAG—G.E.C. New York, U.S.A. 14, 16, 42.		WCGV—Brooklyn, N.Y. ....	54	LGN—Bergen, Norway .....	30
2XAC—W.G.Y. Radio, Schenectady 15 to 100		7XAD—Portland, Oregon .....	53.54	SWEDEN.	
2XBA—W.G.Y. Radio, Newark, N.J. ..	65.18	8XAL—Harrison, Ohio .....	52.05	7MK—Copenhagen .....	39.2
2XAL—"Radio News," New York ....	30.91	6XAR—San Francisco, Calif. ....	33	7RL—Copenhagen .....	42.12
2XE—Richmond Hill, N.Y. ....	22.1	2XAB—New York, U.S.A. ....	24	AUSTRIA.	
2XG—W.E.C. Rocky Point .....	16.02, 23.	WOWO—Fort Wayne, Indiana .....	22.8	OKK2—Vienna, Austria .....	70
6XAI—Inglewood, Cal., U.S.A. ....	66.04	8XAO—Detroit, Mich. ....	32.	SPAIN.	
6XAR—San Francisco, Cal., U.S.A. ..	33	INDO-CHINA.		—Casablanca, Spain .....	51
8XK—c/o K.D.K.A., E. Pittsburg, U.S.A.	63.5, 42, 14.	HVA—Hanoi, Indo-China .....	31.5	FRANCE.	
8XP—c/o KDKA, E. Pittsburg, U.S.A.	63.5, 42, 14.	HOLLAND.		GC—Radio LL, Paris .....	61.
9XU—Council Bluffs, Iowa .....	61.06	PCJJ—Philips' Experimental Station, Hilversum, Holland	31.4	YR—Lyon, Rhone .....	40, 20
KDKA—Westinghouse Ltd., Pittsburg	63.5, 42, 26, 14.	PCLL—Philips' Lamps, Ltd., Kootwijk, Holland .....	32.5, 46	FL—Eiffel Tower, Paris .....	32
KFKX—Hastings, Nebr. ....	56	PCTT—Philips' Lamps, Ltd., Kootwijk, Holland .....	21	SWITZERLAND.	
NPG—San Francisco, Cal., U.S.A. 40, 43, 81.		PCMM—Philips' Lamps, Ltd., The Hague, Holland .....	25	EH9OC—Berne, Switz. ....	32
NXF—Bellevue, Anna, D.C., 16, 17, 20, 50, 54, 71, 81, 84.		PCPP—Philips' Lamps, Ltd., Kootwijk, Holland .....	27	JAVA.	
WCY—Schenectady, N.Y. ....	32, 79, 32.5	PCUU—Philips' Lamps, Ltd., The Hague, Holland .....	42	ANF—Malabar .....	56
WGN—W.E.C. Long Island, N.Y. ....	75	UNION OF SOVIET SOCIALIST REPUBLICS.		JFC—Bataviasche Radio, Batavia ..	22, 40.
		RFN—U.S.S.R. Moscow .....	29, 60, 50	ANDIR—Bandoeng .....	38.5
		RFM—U.S.S.R. Siberia .....	60, 30	ANE—Malabar .....	32, 31.26, 15.93
		ITALY.		ANH—Malabar .....	17.4, 27, 32.
		IMI—Unione Radiofonica, Milan .....	45		
		IDO—Ido Radio, Italy .....	33.5		
		IAX—Rome, Italy .....	45		



# BROADCASTING PROGRAMMES

for the

## COMING WEEK

### Friday, December 21

New South Wales Broadcasting  
Company, Limited

#### 2FC SERVICE

Wave Length, 442 metres

##### EARLY MORNING SESSION.

Announcer: A. S. Cochrane.

- 7 a.m.: "Big Ben" and announcements.
- 7.2 a.m. Official weather forecast, rainfall, river reports, temperatures, astronomical memoranda.
- 7.5 a.m.: "Sydney Morning Herald" summary.
- 7.10 a.m.: Shipping intelligence, mail services.
- 7.12 a.m.: Studio music.
- 7.22 a.m.: Investment market, mining share markets, metal quotations.
- 7.28 a.m.: Wool sales, breadstuffs markets, inter-State markets, produce markets.
- 7.35 a.m.: Studio music.
- 8 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 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 a.m.: "Big Ben," A.P.A. and Reuter's cable services.
- 11.5 a.m.: Close down.

##### MID-DAY SESSION.

Announcer: A. S. Cochrane.

- 12 noon: "Big Ben" and announcements.
- 12 p.m.: Stock Exchange, first call.
- 12.3 a.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, England v. Newcastle, played at Newcastle.
- 12.47 p.m.: Studio music.
- 1.0 p.m. "Big Ben," weather intelligence.
- 1.3 p.m.: "Evening News" mid-day news service; Produce 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.

Accompanist: Ewart Chapples.

- 2.30 p.m.: Programme announcements.
- 2.32 p.m.: Educational session for the schools.
- 2.0 p.m. "Big Ben," pianoforte reproduction.
- 3.15 p.m.: Popular music.
- 3.30 p.m.: Molly Neill, mezzo-soprano.
- 3.37 p.m.: Studio music.
- 3.44 p.m.: Cricket scores, England v. Newcastle, played at Newcastle.
- 3.45 p.m.: A Reading.

- 4.0 p.m.: From the Wentworth—The Wentworth Cafe Dance Orchestra, conducted by Jimmy Elkins.
- 4.15 p.m. From the studio—
- Phillipa Alston, mezzo-contralto: (a) "When All Was Young" (Gounod). (b) "I Love Thee."
- 4.22 p.m.: Molly Neill, mezzo-soprano.
- 4.30 p.m.: From the Wentworth—The Wentworth Cafe Dance Orchestra, conducted by Jimmy Elkins.
- 4.45 p.m.: Stock Exchange, third call.
- 4.47 p.m.: Phillipa Alston, mezzo-contralto.
- 4.54 p.m.: Popular 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—letters and stories.
- 6.10 p.m.: The "Farmyard Five" from Kookaburra Gully.
- 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.
- 6.48 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: Laurence Halbert.

Accompanist: Ewart Chapple.

- 7.40 p.m.: Programme announcements.
- 7.42 p.m.: James Donnelly will speak on the "Byrd" Expedition.
- 7.52 p.m.: Cricket Resume for New Zealand listeners.
- 7.54 p.m.: Popular music.
- 8.0 p.m.: "Big Ben." By courtesy of J. C. Williamson, Ltd., a theatrical transmission will be arranged from one of Sydney's leading theatres, for the benefit of listeners.
- 8.50 p.m.: From the Studio: Alfred Cunningham, Baritone— (a) "The Yeoman's Wedding Song" (Poniatowski). (b) "The Heart Bowed Down" ("Bohemian Girl") (Balfe).
- 8.57 p.m.: Weather report and announcements.
- 9.0 p.m.: "Big Ben."
- Frank Hutchens, Pianoforte solos— (a) "Rondo in C Major" (Beethoven). (b) "Arabesque" (Debussy). (c) "Nocturne" (Bowen).
- 9.15 p.m.: "Gerald and Gertrude," entertainers— Dialogue, "Lucky Jim."
- 9.25 p.m.: Kathleen O'Connor, Mezzo—
- 9.32 p.m.: Wendling and Molloy, Melody Makers— (a) "Down Where the Sun Goes Down" (Jones). (b) "Beloved" (Sanders). (c) "What Of It" (Friend). (d) "Under the Ukelele Tree" (Henderson).
- 9.42 p.m.: Alfred Cunningham, Baritone— (a) "Once I Loved a Maiden Fair" (Old English). (b) "Pokare Kare" (Maori Love Song) (Alfred Hill).
- 9.50 p.m.: Frank Hutchens, Pianoforte Solos— (a) "Scherzo in C Sharp Minor" (Chopin). (b) "Prelude in F Major" (Chopin). (c) "Noel" (Gardiner).
- 10.0 p.m.: "Big Ben."
- "Gerald and Gertrude," Entertainers— Dialogue, "A Change of System."
- 10.10 p.m.: Kathleen O'Connor, Mezzo.
- 10.17 p.m.: Wendling and Molloy, Melody Makers— (a) "It Goes Like This" (Friend). (b) "A Lonesome Boy's Rosary" (Tobias). (c) "Then Came the Dawn" (Warren). (d) "Constantinople" (Carlton).
- 10.27 p.m.: To-morrow's programme and announcements.
- 10.30 p.m.: National Anthem.
- Close down.

### 2BL SERVICE

Wave Length, 353 metres

#### Friday, December 21

##### 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. 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.
- 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. 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.

##### MID-DAY SESSION.

Announcer: J. Knight Barnett.

- 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 noon: G.P.O. clock and chimes.
- Special ocean forecast and weather report.
- 12.3 p.m. Pianoforte reproduction.
- 12.30 p.m.: Shipping and mails.
- 12.35 p.m.: Market reports.
- 12.45 p.m.: Cricket scores, England v. Newcastle, played at Newcastle.
- 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: J. Knight Barnett.

Accompanist: Kathleen Roe.

- 3.45 p.m.: G.P.O. clock and chimes.
- Cricket scores, England v. Newcastle, played at Newcastle.
- 3.46 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.0 p.m.: Molly Long, contralto.
- 4.7 p.m.: Captain Fred Aarons will continue his address: "Women of other Days" ("Cleopatra.")
- 4.20 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.30 p.m.: Peggy Shaw, popular vocalist.
- 4.37 p.m.: Michael O'Connell, elocutionist.
- 4.45 p.m.: Cricket scores.
- 4.46 p.m.: Peggy Shaw, popular vocalist.
- 4.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 5.0 p.m. G.P.O. clock and chimes.
- Peggy Shaw, popular vocalist.
- 5.3 p.m.: "Sun" news service.
- 5.15 p.m.: Pianoforte reproduction.
- 5.25 p.m.: Popular music.
- 5.35 p.m.: Producers' Distributing Society, poultry report.
- 5.37 p.m.: Features of the evening 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.
- Announcer: Basil Kirke.
- 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: Basil Kirke.

Accompanist: G. Vern Barnett.

- 8.0 p.m.: G.P.O. clock and chimes.  
The Savoyans' Dance Band.  
8.10 p.m.: From the Arcadia Theatre, Chatswood—The Wurlitzer Organ; organist, Mr. Nicholas Robins.  
8.20 a.m.: From the studio—Crotchet and Quaver in mirth and melody.  
(a) "Down the Vale" (Moir).  
(b) "I Love You Truly" (Bond).  
8.30 p.m.: Robert Turner and Tot Loudon, sketches.  
8.40 p.m.: The Savoyans' Dance Band.  
8.50 p.m.: John Warren, tenor—  
(a) "Desiree" (Parker).  
(b) "Believe Me, if all those Endearing Young Charms."  
8.57 p.m.: Weather report.  
8.58 p.m.: Sports talk by C. R. Dexter.  
9.13 p.m.: The Savoyans' Dance Band.  
9.23 p.m.: Crotchet and Quaver in mirth and melody—  
(a) "Parted" (Tosti).  
(b) "Larboard Watch" (Williams).  
9.33 p.m.: Robert Turner and Tot Loudon, sketches.  
9.43 p.m.: The Savoyans' Dance Band.  
9.53 p.m.: A Talk on Gardening by Mr. G. Cooper.  
10.8 p.m.: From the Arcadia Theatre, Chatswood—The Wurlitzer organ; organist, Mr. N. Robins.  
10.28 p.m.: From the studio—John Warren, tenor:  
(a) "Serenata" (Toselli).  
(b) "Swing Low, Sweet Chariot" (arr. Burleigh).  
10.35 p.m.: Late weather and announcements.  
10.37 p.m.: The Savoyans' Dance Band, with popular choruses by Art. Leonard.  
10.57 p.m.: Resume of following day's programme.  
10.59 p.m.: The Savoyans' Dance Band, with popular choruses by Art. Leonard.  
11.30 p.m.: National Anthem; close down.

## 2GB, SYDNEY

Theosophical Broadcasting Service

Wave Length, 316 metres

Friday, December 21

- 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, Ltd. 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. Greg. Marshall. 8.30 p.m.: Cello solos by Mr. Cedric Ashton. 8.40 p.m.: Songs by Miss Hettie Woodlee. 8.50 p.m.: Violin solos by Mr. Cecil Berry. 9.0 p.m.: Weather report and address. 9.15 p.m.: Pianoforte solos by Mr. Benson. 9.30 p.m.: Songs by Mr. Greg. Marshall. 9.40 p.m.: 2GB Instrumental Trio. 10.0 p.m.: Songs by Miss Hettie Woodlee. 10.10 p.m.: Pianoforte solos by Mr. Benson. 10.20 p.m.: Orchestral music. 10.30 p.m.: Close down.

## 2UW, SYDNEY

Radio Broadcasting, Limited  
34 Paling's Buildings, Ash Street,  
Sydney

Wave Length, 267 metres

Friday, December 21

## MIDDAY SESSION.

- 12.30 p.m.: To-day's anniversary. 12.32 p.m.: Music. 1 p.m.: G.P.O. clock and chimes; music. 3 p.m.: Talks to women.

- 2.15 p.m.: "Cheerio Talk." 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 p.m.: G.P.O. clock and chimes; music. 7.10 p.m.: News items, etc. 7.30 p.m.: Musical interlude. 7.35 p.m.: Talk on Modern English Poetry. 8 p.m.: G.P.O. clock and chimes; music. 9 p.m.: G.P.O. clock and chimes; comments on Foreign Affairs, by Mr. J. M. Prentice. 9.10 p.m.: Music and request numbers. 10 p.m.: Close down.

## 3LO, MELBOURNE

Broadcasting Company of Australia

Wave Length, 371 metres

Friday, December 21

## 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.

- 10.50 a.m.: Eric Welch will speak on tomorrow's races at Mentone. 11.0 a.m.: 3LO's different dainties for the daily dinner: To-day's radio recipe, Fruit Salad. 11.5 a.m.: Captain Donald MacLean will speak on "Famous Women of History." 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.: Under the auspices of the Health Department, E. A. Hepburn will speak on "A Sanitary Dwelling."

## MIDDAY SESSION

Announcer: C. J. O'Connor.

Accompanist: Agnes Fortune.

- 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 reports by John M'Namara and Co. 12.20 p.m.: The Station Orchestra—"Lyrische Suite" (Lindner). 12.30 p.m.: Sydney Burchall, Baritone—"For You Alone" (Geehl). "Grinder John" (Melvin). 12.37 p.m.: Stock Exchange information. 12.40 p.m.: The Station Orchestra—"Suite, 'Harvest Time' (Haydn Wood). 12.50 p.m.: Ida Walker, Contralto—"Amour! Vieux Aider" (Saint-Saens); selected. 1.7 p.m.: Meteorological information. Weather forecast for Victoria, New South Wales, Tasmania, and South Australia. Ocean forecasts. River reports. 1.14 p.m.: Senia Chostiakoff, Tenor—"Beautiful Eyes"—Gipsy song; "Beautiful Night"—Russian folk song. 1.21 p.m.: The Station Orchestra—"Suite, 'Peleas and Melisande'" (Sibelius). 1.23 p.m.: Roy Ryan, Entertainer, will whistle and sing—"Nightingale Waltz." 1.33 p.m.: Ida Walker, Contralto—"Looking Backward" (Parry). "A Soft Day" (Stanford). 1.40 p.m.: The Station Orchestra—"Scenes Pittoresques" (Masse-net). 1.50 p.m.: Close down.

## AFTERNOON SESSION.

Announcer: C. J. O'Connor.

Accompanist: Agnes Fortune.

- 2.15 p.m.: The Strad Trio (Cecil Parkes, violin; Frank Johnstone, cello; and May Broderick, piano)—"Trio Op. 35, G Major" (Hummel), Allegro con brio, Menuetto, Rondod Scherzando. 2.28 p.m.: Dawn Harding, Mezzo-soprano—"Easter Snow" (Stanford). "Derbyshire Song" (Howley). 2.35 p.m.: Cecil Parkes, Violin—"Nooturne E Flat" (Chopin). "Menuett" (Paderewski-Kreisler). 2.42 p.m.: The Strad Trio—"Orientale" (Cui Parkes), "Menuett" (Boccherini-Parkes). 2.48 p.m.: Dawn Harding, Mezzo-soprano—"Meeting of the Woods" (Schumann). "The Jassamine" (Schumann). 2.55 p.m.: Cecil Parkes, Violin—"Concerto, D Major" (Mozart), First Movement only. 3.2 p.m.: The Strad Trio—"Death of Aase" (Grieg), "Anitra's Dance" (Grieg), "The Halls of the Mountain King" (Grieg). 3.10 p.m.: Frances Fraser will speak on "Christmas in Many Lands." 3.25 p.m.: The Station Orchestra—Selection, "The Dairymaids" (Rubens).

- 3.35 p.m.: Rita Hilton, soubrette—"Two Little Sausages," from "The Girls of Gottenburg" (Monckton). "A Little Pink Petti from 'Peter,' from 'Miss Hook of Holland.'" 3.42 p.m.: The Station Orchestra—Selection, "Veronique" (Messa-ger). 3.52 p.m.: E. Mason Wood, baritone—"Star of My Soul," from "The Geisha." "Yeoman of England," from "Merrie England." 3.59 p.m.: The Station Orchestra—"Maid of the Mountains" (Simson). 4.9 p.m.: Freda Treweek, Soprano—"Villia" (Lehar). "My Beautiful Lady" (Caryll). 4.16 p.m.: The Station Orchestra—Selection, "Tell Me More" (Gershwin). 4.26 p.m.: Rita Hilton, Soubrette—"An Old-fashioned Wife," from "Oh, Boy," "I've Come Along to Paris," from "The Spring Chicken." 4.40 p.m.: E. Mason Wood, Baritone—"Dolores," from "Floradara," "Bachelor Gay," from "Maid of the Mountains." 4.47 p.m.: The Station Orchestra—Selection, "The Desert Song" (Romberg). 4.53 p.m.: Freda Treweek, Mezzo-Soprano—"Love's Own Kiss," "High Jinks" (Friml), "Pretty Treweek, Mezzo-Marie" (Friml). 5 p.m.: "Herald" news service. Stock Exchange information. 5.10 p.m.: Close down.

## EVENING SESSION.

Announcer: Maurice Dudley.

- 6 p.m.: Answers to letters and birthday greetings by "Billy Bunny."  
6.25 p.m.: Musical interlude.  
6.30 p.m.: Captain Donald MacLean has another adventure story to tell you.

## NIGHT SESSION.

Announcer: Maurice Dudley.

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 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.  
7.43 p.m.: Birthday greetings.  
7.46 p.m.: Under the auspices of the Department of Agriculture, G. T. Levick, Science Field Officer—"Insect Pests Control—Thrips."  
8.0 p.m.: A Maker of History.  
8.0 p.m.: H. K. Love will speak on "Technicalities."  
Mr. Love will be glad to attend to your wireless difficulties, and we ask you to write to him for any information you may require.  
8.10 p.m.: Collingwood Citizen's Band—March, "Conqueror."  
"Pilgrim's Chorus," from "Tannhauser."  
8.20 p.m.: Sydney Burchall, baritone—"Sergeant of the Line" (Squire).  
"Haven of Tenderness" (Gordon).  
8.27 p.m.: Collingwood Citizens' Band—March, "Never Despair."  
Novelty, "The Ragtime Bass Player."  
8.34 p.m.: Molly Mackay, soprano—"Happy Song" (del Riego).  
"The Thrush Love Song."  
8.41 p.m.: Collingwood Citizens' Band—Suite, "Rustic Holiday."  
8.50 p.m.: R. H. Campbell will speak on "Cricket"—Victoria v. New South Wales.  
9.0 p.m.: Senia Chostiakoff, tenor—"Russian Gypsy Song" (Kormiloff).  
"Do Not Scold Me, Dear" (Dybbuck).  
9.7 p.m.: Collingwood Citizen's Band—Fantasia, "In Old Kentucky."  
9.17 p.m.: Sydney Burchall, baritone—"Her Greatest Charm" (Jacobs-Bond).  
"A Caution" (Hope).  
9.24 p.m.: Agnes Fortune, piano—"Polonaise in C Sharp Minor" (Chopin).  
9.34 p.m.: Eric Welch will speak on tomorrow's races at Mentone.  
9.44 p.m.: Ida Walker, mezzo-contralto—"Softly Awakes My Heart" (Saint-Saens).  
9.51 p.m.: Collingwood Citizens' Band—Euphonium solo, "In Happy Moments" from "Maritana."  
Cakewalk, "Sambo's Wedding."  
10. p.m.: Molly Mackay, soprano—"Caro Nome," from "Rigoletto" (Verdi).  
10.7 p.m.: Collingwood Citizens' Band—Waltz, "Love and Life in Vienna."  
10.15 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.

- 10.25 p.m.: Roy Ryan, entertainer, will sing and whistle—  
"I Travel the Road, Who Cares?"  
10.30 p.m.: Collingwood Citizens' Band—  
"Selections of Irish Airs" (by request).  
Cornet solo, "Brilliant" (Roy Osborne).  
10.43 p.m.: Ida Walker, mezzo-contralto—  
Request numbers.  
10.50 p.m.: The Radi-o-Aces.  
"Sally Rose" (Friend)..  
"Sincerely I Do" (Davis).  
"The Prune Song" (Crumit).  
10.59 p.m.: Our Great Thought for To-day is  
"True felicity consists of its own consciousness."—Rivarol.  
11.0 p.m.: The Radi-o-Aces—  
"Sleepy Baby" (Kahn).  
"Get Out and Get Under the Moon" (Tobias).  
"That's my Weakness Now" (Stept).  
"Tiger Rag" (Moore).  
"Dream House" (Foxe).  
"Jeannine" (Gilbert)..  
"Brainstorm" (Sanders)..  
"Day Dreams" (Hallam).  
"After my Laughter Came Tears" (Turk).  
"Without You, Sweetheart" (Henderson).  
"Good-night Chorus." (Bibo)..  
11.40 p.m.: "God Save the King."

## 3AR, MELBOURNE

Associated Radio Company

Wave Length, 484 metres

Friday, December 21

## MORNING NEWS SESSION.

- 10 a.m.: G.P.O. clock says "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: Frank Hatherley.

Accompanist: Reg. Brown.

- 11.0 a.m.: The Radi-o-Aces—"Dream Kisses" (Yellen), "Can't You Hear Me Say I Love You" (Brown), "Virginia Creeper" (Wade), "Little Log Cabin of Dreams" (Hanley), "Happy-go-lucky Lane" (Lewis), "All Day Long" (Cross). 11.20 a.m.: Vera Thompson, soprano—"O, Lovely Night" (Ronald), "Little Lady of the Moon" (Coates). 11.29 a.m.: The Radi-o-Aces—"Don't Keep Me in the Dark, Bright Eyes" (Bryan), "Down Where the Sun Goes Down" (Jones), "Dolores" (Kassell), "Mine, All Mine" (Ruby), "Rain" (Ford). 11.47 a.m.: Will Davies, baritone—"Egyptian Love Song" (Dix), "When the King Went Forth to War" (Koeneman). 11.54 a.m.: The Radi-o-Aces—"Just Like a Melody Out of the Sky" (Donaldson), "Because My Baby Don't Mean Maybe Now" (Donaldson), "Just a Year Ago To-night" (Rose), "Nesting Time" (Nussbaum). 12.10 p.m.: Vera Thompson, soprano—"Coppelia Waltz" (Delibes), "Sunday" (Molly Carew). 12.17 p.m.: The Radi-o-Aces—"Louisiana" (Schafer), "Lonely in a Crowd" (Greer), "Chloe" (Kahn), "Parting With You" (Conly). 12.30 p.m.: British Official Wireless; announcements. 12.40 p.m.: The Radi-o-Aces—"Kiss Me Before the Dawn" (Perkin), "Angelia Mia" (Rappee), "Lonesome in the Moonlight" (Baer), "Just a Memory" (Henderson). 1.0 p.m.: Will Davies—"The Ginchy Road" (Edward), "Postillion" (Molloy). 1.7 p.m.: The Radi-o-Aces—"What Do I Care What Somebody Said" (Woods), "Somebody's Crazy About You" (Murphy), "Get Out and Get Under the Moon" (Tobias), "That's My Weakness Now" (Stept), "Fascinating Vamp" (Wilson), "Loved Me" (Wilson), "There's Something About a Rose" (Kahal). 1.30 p.m.: Close down.

## EVENING SESSION.

Announcer: John Stuart.

- 6.0 p.m.: A recital of world-famed artists.

## NIGHT SESSION.

Announcer: John Stuart.

- 8.10 p.m.: Results of cricket, England v. Newcastle, at Newcastle.  
8.15 p.m.: Eric E. Aikens—"To-morrow's Events at the Motordrome."

- 8.30 p.m.: Community singing, transmission from Central Hall, Geelong.  
10.30 p.m.: From the studio, News Session—"Age" news service, exclusive to 3AR; weather forecast; results of cricket match, England v. Newcastle, at Newcastle.  
10.40 p.m.: Our Australian Good-night Quotation.

## 4QG, BRISBANE

Queensland Radio Service

Wave Length, 385 metres

Friday, December 21

## EARLY MORNING SESSION.

Announcer: J. Tyson.

- 7.48 a.m.: Time signals. 7.45 a.m.: News service supplied by courtesy of "The Daily Mail." 8 a.m.: Some electric records. 8.15 a.m.: News service supplied by courtesy of "The Courier." 8.30 a.m.: Close down.

## MORNING SESSION.

Announcer: C. Archdall.

- 11 a.m.: Music. 11.5 a.m.: Social news. 11.15 a.m.: "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 (noon): Close down.

## MIDDAY SESSION.

Announcer: R. Wight.

- 1 p.m.: Market reports and weather information. 1.15 p.m.: From the Paris Cafe, lunch-hour music. 2 p.m.: Close down.

## AFTERNOON SESSION.

Announcer: H. Humphreys.

- 3 p.m.: From the Tivoli Theatre. Orchestral music by the Tivoli Operatic Orchestra, under the baton of Mr. C. Groves. 3.30 p.m.: From the Studio, mail train running times; a programme of electrically reproduced records. 4 p.m.: From the Tivoli Theatre, orchestral music. 4.15 p.m.: From the Studio, this afternoon's news.

## EARLY EVENING SESSION.

- Announcers: R. Wight and H. Humphreys.  
6 p.m.: From the Studio, mail train running times; mail information; shipping news. 6.5 p.m.: From the Paris Cafe, dinner music. 6.25 p.m.: From the Studio, commercial announcements. 6.30 p.m.: Bedtime stories conducted by "The Sandman." 7 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.: To-morrow's sporting fixtures reviewed.

## NIGHT SESSION.

Announcer: H. Humphreys.

- To-night's programme will consist entirely of items which were specially asked for by listeners when 4QG appealed for request some little time ago.  
8 p.m.: From the Studio, The Studio Orchestra (conductor, Alf. Featherstone), Overture, "In a Persian Market" (Ketelby). Dick Pike (bass), "Drinking." Harry Humphreys (elocutionist), "Wilfred Denver's Dream" from "The Silver King." The Anglo Male Quartette, "De Ole Banjo." Jill Manners (soprano), "Vilanelle" (Delacqua). Pipe Major M'Corkindale, some bagpipe melodies. The Studio Orchestra, "Ramona." Dick Pike (bass), "The Bosun's Story." Aeolian Vocalion Selection, "Cuckoo." 9 p.m.: Metropolitan weather forecast. 9.1 p.m.: J. P. Cornwell (bass), "The Holy City" (Stephen Adams). May Jordan (soprano), "Your eyes have told me so." Aeolian Selection, Paul Whiteman and Co. in "Constantinople." Ernest Barry (elocutionist), "If" (Kipling). "Gunga Din" (Kipling). C. R. Kolb and Dick Pike, vocal duet, "Excelsior" (Balfe). The Studio Orchestra, "The Spanish Moon." "Three o'clock in the morning." The Anglo Male Quartette, "Nigger Minstrel Numbers," "Mary Lou." The Sandman, some mouth organ melodies Mrs. Robert Bell (soprano), "Villa" (from "The Merry Widow"), by special request. C. R. Kolb (tenor), "Sally Horner," "Once Again." J. Tyson, some accordion solos.

- A. F. Stoddart (tenor), "Lay my head beneath a rose." The Studio Orchestra, "Snacks in Bars."

## SPEEDWAY.

- At a suitable time during the evening a description of the main motor cycle races will be relayed from Davies Park.  
10 p.m.: From the Studio, "The Daily Mail" news, "The Courier" news; weather news. Close down.

## 5CL, ADELAIDE

Central Broadcasters, Ltd.

Wave Length, 395 metres

Friday, December 21

## MORNING SESSION

- 11.0 a.m.: G.P.O. chimes. 11.1 a.m.: Musical interlude on the Sonora. 11.15 a.m.: "Economist." Kitchen Craft and Menu talk. 11.30 a.m.: Musical interlude, recital of Parlophone recordings on the Sonora.

## MIDDAY SESSION.

- 12.0 noon: G.P.O. chimes. 12.1 p.m.: Sonora recital of world-famous Columbia recordings. 12.15 p.m.: The "Advertiser" general news service. 12.35 p.m.: British Official Wireless news. 12.40 p.m.: Sonora recital, a few minutes with Columbia jazz orchestras. 12.50 p.m.: S.A. Railway information. 12.51 p.m.: S. C. Ward and Co.'s Stock Exchange information. 12.58 p.m.: Meteorological information. 1.0 p.m.: G.P.O. chimes. 1.1 p.m.: Jack Burgess, baritone, "Don't Be Angry With Me" (Donaldson), "Side by Side" (Woods). 1.10 p.m.: Metronola Dance Band, "Rain" (Ford), "Harvest Moon" (Norworth), "Lila" (Tobias). 1.20 p.m.: Linda Ward, soprano, "Cradle Song" (Kreisler), "A Memory" (Park). 1.27 p.m.: Metronola Dance Band, "Afraid of You" (Henderson), "Sunshine" (Berlin), "Chloe" (Moret). 1.37 p.m.: Jack Burgess, baritone, "My Ohio Home" (Donaldson), "Magnolia." 1.44 p.m.: Metronola Dance Band, "Oh, Doris, Where Do You Live?" (Kahn), "A Night in June" (Friend). 1.52 p.m.: Linda Ward, soprano, "An Old Garden" (Temple), "Over the Waters Blue" (Clark). 1.57 p.m.: Meteorological information. 2.0 p.m.: G.P.O. chimes and close down.

## AFTERNOON SESSION.

Announcer: J. L. Norris.

- 3.0 p.m.: G.P.O. chimes. 3.1 p.m.: A pot-pourri concert. 3.1 p.m.: From the Adelaide Oval, description of the international tennis, England v. South Australia, by Mr. F. J. Mills. 3.11 p.m.: From studio, The Radio Twins, instrumentalists, selected popular numbers. 3.19 p.m.: Alys Watson, soprano, "A June Morning" (Willeby), "A Rose, a Kiss, and You" (Arthur). 3.25 p.m.: William Davey, xylophonist, "Chloe" (Moret), "Sunshine" (Berlin). 3.31 p.m.: Sydney Hollister, humorist, in droll humor. 3.39 p.m.: From the Adelaide Oval, description of the international tennis, England v. South Australia, by Mr. F. J. Mills. From studio. 3.50 p.m.: The Radio Twins, selected popular numbers. 3.55 p.m.: Jean Sinclair, contralto, "Reaping" (Clarke), "All Thro' the Night" (Welsh). 4.2: William Davey, xylophonist, "Under the Clover Moon," "Miss Annabelle Lee." 4.10 p.m.: Sydney Burchall, popular baritone, "Beautiful" (Shay), "Little Irish Girl" (Loehr). 4.17 p.m.: From Adelaide Oval, description of tennis match, England v. South Australia, by Mr. F. J. Mills. 4.25 p.m.: Alys Watson, soprano, "Vale" (Russell), "A Request" (Findon). 4.31 p.m.: Radio Twins, instrumentalists, in popular numbers. 4.38 p.m.: Sydney Hollister, humorist, in comedy sketches. 4.43 p.m.: Jean Sinclair, contralto, "Sea Slumber Song" (Elgar), "Wiegand" (Brahms). 4.50 p.m.: William Davey, xylophonist, "That's My Mammy," "My Ohio Home." 4.57 p.m.: S. C. Ward and Co.'s Stock Exchange information. 5.0 p.m.: G.P.O. chimes and close down.

## EVENING SESSION.

Announcer: Athol Lykke.

- 6.0 p.m.: G.P.O. chimes. 6.1 p.m.: International cricket scores, second Test match at Sydney. 6.30 p.m.: Musical interlude on the "Sonora." 6.55 p.m.: International cricket scores, second Test match at Sydney. 7.0 p.m.: G.P.O. chimes. 7.1 p.m.: S. C. Ward and Co.'s Stock Exchange information. 7.6: General market reports. 7.10 p.m.: 5CL's sporting service, by "Sil-



vius," including a review of Tattersall's and Moonee Valley meetings. 7.22 p.m.: "Willow," talk on cricket. 7.30 p.m.: P. H. Nichols, talk on "Don Quixote."

#### NIGHT SESSION.

7.45 p.m.: Muriel Prince, pianiste, "Country Gardens" (Grainger).

7.50 p.m.: Sydney Burchall, popular baritone, "The Piper" (Steel), "Laugh, Clown Laugh" (Fioroto).

7.56 p.m.: Organ recital by Laurence Haggitt, transmitted from Flinders Street Baptist Church—"Choral Song and Fugue in C" (Wesley), "Canon in A Minor."

#### FROM THE STUDIO.

8.5 p.m.: Sydney Burchall, "Chloe" (Moret), "Coquette."

8.10 p.m.: Organ recital by Laurence Haggitt, from Flinders Street Baptist Church, "Evening Song" (Bairstow).

#### FROM J. C. WILLIAMSON'S GARDEN THEATRE.

8.16 p.m.: A night of novelty by the Humphrey Bishop famous English Comedy and Operatic Company.

9.15 p.m.: Organ recital by Laurence Haggitt, from Flinders Street Baptist Church, "Theme and Variations in B Flat" (Haigh), "Epilogue" (Willan).

9.30 p.m.: Novelty entertainment continued.

10.15 p.m.: "The Advertiser" general news service.

10.20 p.m.: 5CL's sporting service, by "Silvius," including a review of Tattersall's and Moonee Valley meetings.

10.30 p.m.: Meteorological information and overseas grain report.

10.32 p.m.: Our good-night thought.

10.33 p.m.: Modern dance numbers by the famous Radi-o-Aces.

11.10 p.m.: God Save the King.

## 6WF, PERTH

Westralian Farmers'

Wave Length, 1250 metres

Friday, December 21

12.30 p.m.: Tune in. 12.35 p.m.: Markets; news and cables; and cricket scores. 1.0 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 Quintette, conducted by Mr. Val Smith, will play the following numbers, with vocal interludes—March, "Triumphant" (Edder); overture, "Egmont" (Beethoven); valse, "Mariana" (Waldteufel); selection, "Poppy" (Jones). 2.0 p.m.: Close down. At intervals during the afternoon progress results of the cricket match between the English Eleven v. Hunter River, played at Newcastle, will be broadcast. 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. The evening transmission is broadcast on 104.5 metres, as well as the usual wave-length. 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 Company. 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.: Popular night; musical programme from the studio, including vocal and instrumental artists. 9.0 p.m.: Late news items, by courtesy of the "Daily News" Newspaper Company; ships within range announcement; weather report and forecast; station announcements. 9.25 p.m.: Wrestling match, a description will be given by the sporting editor of "Truth" Newspaper Company of the wrestling match. 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

Tasmanian Broadcasters, Ltd.

Wave Length, 516 metres

Friday, December 21

#### MIDDAY SESSION.

Announcer: Jack Broadbent.

11.30 a.m.: Selections by the Melody Masters. 11.34 a.m.: Special Midlands weather forecast. 11.35 a.m.: Selections by the Melody Masters. 11.55 a.m.: Tasmanian station's 9 a.m. weather report. 12 noon: G.P.O. clock chimes the hour. 12.1 p.m.: Shipping information; ships within wireless range; mail notices; housewives' 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.: "Mercury" news service; produce sales held at railway. 1.10 p.m.: Selections by the Melody Masters. 1.30 p.m.: Close down.

#### AFTERNOON SESSION.

Announcer: Jack Broadbent.

3.0 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.: A children's concert from 7ZL Studio—Teddy Richardson, song, "Ramona," "That's My Mammy." 3.12 p.m.: Molly Whitelaw, violin solo, "Slumber Song" (Schumann). 3.17 p.m.: Jack Spencer, song, "Selected." 3.24 p.m.: Doreen Elsie, piano solo, "Prince of Smiles" (Stan-ton). 3.29 p.m.: Sheila Carrol, recitation, "Selected." 3.32 p.m.: Douglas Robertson, songs, "Selected." 3.39 p.m.: "Uncle David" will sing to the children. "The Mellow Mersey Moon" (Beyan). 3.42 p.m.: Ena Jolley, piano solo, "Melodie de Amour," "Ripples" (Presser). 3.46 p.m.: "The Storey Lady" will tell "A Christmas Story." 3.56 p.m.: Josephene Wanda Piesse, recitation, "The Wheel of Time" (Barkley). 4.4 p.m.: Molly Whitelaw, violin solo, "Cradle Song" (Brahms). 4.8 p.m.: Odella Moore, song, "I Heard You Go By." 4.11 p.m.: Doreen Elsie, piano solo, "Remembrance" (Bayley). "The Moonlight Waltz" (Logan). 4.19 p.m.: Teddy Richardson, songs, "If You See Sally," "She Belongs to Me." 4.26 p.m.: Sheila Carrol, recitation, "Selected." 4.30 p.m.: Close down.

#### 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 Storey Lady" will tell a story to the children, "The Three Wise Men." 6.45 p.m.: Selections by the Melody Masters. 7.0 p.m.: Request number for the children.

#### EVENING SESSION.

Announcer: Jack Broadbent.

7.15 p.m.: A. M. O'Leary will speak on "Cricket Activities." 7.30 p.m.: A studio concert by the Discus Ensemble and 7ZL artists—Doris Mannering (soprano), "In an Old Town" (Squire), "A Mother's Song" (Clayton). 7.37 p.m.: Paul Whiteman and his orchestra, "That's My Weakness Now" (Green). 7.40 p.m.: Harry Guy (baritone), "My World" (Jordan), "Good Company" (Adams). 7.47 p.m.: Australian Commonwealth Band (conducted by Albert Baillie), "Entente Cordiale March." 7.50 p.m.: Lynn Starr (soprano), "Tip Toe" (Carew). "I Heard You Go By" (Wood). 7.57: Paul Whiteman and his orchestra, "Just Like a Melody Out of the Sky" ((Donaldson). 8.0 p.m.: Albert Sargison (tenor), "Selected." "Selected." 8.7 p.m.: Guitar duet, "Wasbash Blues" (Meinken). 8.10: p.m.: Doris Mannering (soprano), "Slave Song" (Del Riego). "The Pixie Piper Man" (Elliott). 8.17 p.m.: Paul Whiteman and his orchestra, "Felix the Cat" (Wending). 8.20 p.m.: Harry Guy (baritone), "Danny Boy" (Weatherley), "Let's Grow Old Together" (Nelson). 8.27 p.m.: Australian Commonwealth Band, "Australia for Ever" (Betteridge). 8.30 p.m.: Lynn Starr (soprano), "Two Brown Eyes" (Grieg). "A Swan." 8.37 p.m.: Paul Whiteman and his orchestra, "Blue Nights" (arr. Robins). 8.40 p.m.: Albert Sargison (tenor), "Selected." "Selected." 8.47 p.m.: J. M. Counsel, "A Musical Hour with the Old Masters—The History and Development of Music." 9.47: The Royal Autocar Club of Tasmania safety mes-

sage. 9.50 p.m.: News session—British official wireless news; readings from "Weekly Courier," "Mercury" special Tasmanian news service; Railway auction produce sales; weather information; Hobart Stock Exchange quotations; Royal Autocar Club of Tasmania road guide for the week-end; cycling notes by the Hobart Cycling Association; athletic news by the Amateur Athletic Association; market reports from Messrs. Roberts and Co., Messrs. Wise and Stirling, and Messrs. A. G. Webster and Sons. 10 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.

## Saturday, December 22

New South Wales Broadcasting Company, Limited

## 2FC SERVICE

#### EARLY MORNING SESSION.

Announcer: A. S. Cochrane.

7 a.m.: "Big Ben" and announcements. 7.2 a.m.: Official weather forecast; rainfall; river reports; temperatures; astronomical memoranda. 7.5 p.m.: "Sydney Morning Herald" summary. 7.10 p.m.: Shipping intelligence; mail services. 7.12 a.m.: Studio music. 7.22 a.m.: Investment market; mining share markets; metal quotations. 7.28 a.m.: Wool sales; breakstuffs market; inter-State markets; produce markets. 7.35 a.m.: Studio music. 8 a.m.: "Big Ben." Close down.

#### MORNING SESSION.

Announcer: A. S. Cochrane.

10 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: 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 a.m.: "Big Ben"; A.P.A. and Reuter's cable services. 11.5 a.m.: Close down.

#### MIDDAY AND AFTERNOON SESSIONS.

Announcer: A. S. Cochrane.

12 noon: "Big Ben" and announcements. 12.2 p.m.: Stock Exchange information. 12.4 p.m.: Studio music. 12.10: "Sydney Morning Herald" news service. 12.15 p.m.: Rugby wireless news. 12.20 p.m.: Studio music. 12.45 p.m.: Cricket scores, England v. Newcastle, played at Newcastle. 1 p.m.: "Big Ben"; weather intelligence. 1.3 p.m.: "Evening News" midday news service. 1.20 p.m.: Studio music.

#### RACES.

During the afternoon events at the A.J.C. meeting at Randwick will be described by the 2FC Racing Commissioner.

#### CRICKET.

Scores of the cricket match, England v. Newcastle, played at Newcastle, will be transmitted as received. During sporting intervals musical items will be given by—

Les Busse, Melo Accordeon—

- Selection old favorites.
- "Mary Ann" (Silver).
- "Minuet in G" (Beethoven).
- "Last Night I Dreamed" (Lombard).
- "Cavaliere Rusticana" (Mascagni), and the Wentworth Cafe Dance Orchestra.

4.45 p.m.: From the studio—Complete sporting resume.

5 p.m.: "Big Ben"; close down.

#### EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40: 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. 6.30 p.m.: Sporting news; late news, and studio music. 7.10 p.m.: The 2FC Dinner Quartet, conducted by Horace Keats:—  
(a) "Merrie England" (German).



- (b) "Love Everlasting" (Friml).  
 (c) "Red Poppies" (Elliott).  
 (d) "In a Persian Market" (Ketelby).  
 (e) "March of the Toys" (Herbert).  
 (f) "My Angel" (Rapee).

## EVENING SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

- 7.40 p.m.: Programme announcements.  
 7.45 p.m.: Popular music.  
 7.50 p.m.: Cricket resume for New Zealand listeners.  
 7.52 p.m.: From Prince of Wales Hospital, Randwick, "Hut 15," Christmas Concert Party for the soldiers, under the direction of Mr. Charles Lawrence.  
 8.45 p.m.: From the studio—Rene Rich, violinist.  
 8.52 p.m.: From the Wentworth—The Wentworth Cafe Dance Orchestra, under the direction of Mr. Jimmy Elkins.  
 9.2 p.m.: Weather report.  
 9.4 p.m.: John Mitchell, tenor—(a) "La Serenata" (Braga), (b) "Rosamond" (D. Foster).  
 9.11 p.m.: From the Speedway—Description of the races.  
 9.21 p.m.: From the studio—Howard Leighton, novelty pianist—(a) "Just Like a Melody" (Donaldson), (b) "Everything is Rosy Down in Georgia" (Johnston), (c) "My Ohio Home" (Donaldson), (d) "Beautiful" (Shay).  
 9.28 p.m.: From the Wentworth—The Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins.  
 9.38 p.m.: From the studio—Rene Rich, violinist.  
 9.45 p.m.: John Mitchell, tenor—(a) "Serenade" (Schubert), (b) "I Dreamed We Walked in a Garden" (Lohr).  
 10.2 p.m.: From the Speedway—Description of the races.  
 10.15 p.m.: From the studio—Howard Leighton, novelty pianist—(a) "The Man I Love" (Gershwin), (b) "I'm Wingin' Home" (Tobias), (c) "Bag Doll" (Brown), (d) "Humoriskimo" (Wendling), (e) "Kitten on the Keys" (Confrey).  
 10.22 p.m.: From the Wentworth—The Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins.  
 10.30 p.m.: From the studio—Late weather and announcements.  
 10.32 p.m.: Len Maurice in the newest song hits.  
 10.39 p.m.: From the Wentworth—The Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins.  
 10.57 p.m.: From the studio—To-morrow's programme and announcements.  
 10.59 p.m.: Len Maurice in the newest song hits.  
 11.5 p.m.: From the Wentworth—The Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins.  
 11.30 p.m.: National Anthem. Close down.

## 2BL SERVICE

Saturday, December 22

## 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. 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.  
 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. 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

Announcers: A. C. C. Stevens,

J. Knight Barnett.

- 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 noon: G.P.O. clock and chimes.  
 Special ocean forecast and weather report.  
 12.3 p.m.: Pianoforte reproduction.  
 12.30 p.m.: "Sun" news service.

- 12.40 p.m.: Studio music.  
 12.45 p.m.: Cricket scores, England v. Newcastle, played at Newcastle.  
 12.48 p.m.: Studio music.  
 1.30 p.m.: "Sun" news service.  
 1.40 p.m.: Studio music.  
 1.57 p.m.: Cricket scores.  
 2.0 p.m.: G.P.O. clock and chimes—close down.  
 Note: Race results from the A.J.C. meeting at Randwick will be broadcast by courtesy of the "Sun" Newspapers.

## AFTERNOON SESSION

Announcer: J. Knight Barnett.

Accompanist: Kathleen Roe.

- 2.45 p.m.: G.P.O. chimes.  
 Cricket scores, England v. Newcastle, at Newcastle.  
 3.47 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.  
 4.0 p.m.: Olga le Grey, popular songs.  
 4.7 p.m.: The Happy Trio.  
 4.16 p.m.: "Sun" news service.  
 4.20 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.  
 4.30 p.m.: Olga le Grey, popular songs.  
 4.37 p.m.: The Happy Trio.  
 4.47 p.m.: Cricket scores.  
 4.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.  
 5.0 p.m.: G.P.O. clock and chimes—"Sun" news service.  
 5.7 p.m.: The Happy Trio.  
 5.14 p.m.: Pianoforte reproduction.  
 5.24 p.m.: Popular music.  
 5.30 p.m.: Complete racing resume.  
 5.37 p.m.: Features of the evening programme.

## EARLY EVENING SESSION

Announcer: Basil Kirke.

- 5.40 p.m.: Children's session.  
 Letters and stories.  
 6.0 p.m.: Music and entertainment.  
 6.30 p.m.: "Sun" news service.  
 6.40 p.m.: 2BL Dinner Quartette—  
 (a) "Mauresque Caprice" (Boccalari).  
 (b) "Loin du Bal" (Gillet).  
 (c) "Rossika" (Roberts).  
 (d) "Maid of the Mountains" (Fraser-Simson).  
 (e) "Melodie" (Rachmaninoff).  
 (f) "Back in Your Own Back Yard" (Jolson).  
 7.10 p.m.: Cricket scores.  
 Complete sporting resume—complete racing 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: Basil Kirke.

Accompanist: G. Vern Barnett.

- 8 p.m.: G.P.O. clock and chimes.  
 J. Knight Barnett and Dorothy Dewar, entertainers.  
 8.8 p.m.: The Ahad Duo, steel guitars.  
 8.16 p.m.: Phil Mountain, comedian—  
 (a) "Jeannine" (Shilkret and Gilbert).  
 (b) "Would a Manx Cat Wag its Tail" (Hames and Wright).  
 8.23 p.m.: J. Knight Barnett and Dorothy Dewar, entertainers.  
 8.30 p.m.: Popular studio programme.  
 9.45 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.  
 10.0 p.m.: From the Studio.  
 G.P.O. clock and chimes.  
 Nea Hallet, in popular numbers.  
 10.7 p.m.: J. Knight Barnett and Dorothy Dewar, entertainers.  
 10.17 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.  
 10.30 p.m.: From the Studio.  
 Nea Hallet, in popular numbers.  
 10.37 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.  
 10.57 p.m.: From the Studio.  
 Resume of following day's programme.  
 10.59 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.  
 During the intervals between dance items "Sun" news will be given.  
 11.30 p.m.: National Anthem.  
 Close down.

## 2GB, SYDNEY

Saturday, December 22

- 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.

## 2UW, SYDNEY

Saturday, December 22

- 5.30 p.m.: Children's Hour, conducted by Uncle Jack.  
 6.30 p.m.: Close down.  
 7 to 9.59 p.m.: Musical programme.  
 10 p.m.: Close down.

## 3LO, MELBOURNE

Saturday, December 22

## 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 a.m.: Eric Welch will speak on to-day's races at Mentone.  
 11.10 a.m.: The Station Orchestra, suite, "Pipes of Pan" (Logan).  
 11.20 a.m.: Sydney Burchall, baritone, "Border Ballad" (Cowan).  
 "A Flower from an Old Bouquet."  
 11.27 a.m.: Roy Ryan, entertainer, some popular airs whistled.  
 11.30 a.m.: Description of the Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C., by Rod M'Gregor.

## MIDDAY SESSION.

- 12 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.  
 12.26 p.m.: Description of the Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C., by Rod M'Gregor.  
 1.15 p.m.: Stock Exchange information; meteorological information; weather forecast for Victoria, Tasmania, South Australia, and New South Wales.  
 1.25 p.m.: The Station Orchestra, "Villanelle" (Kriers).  
 "Novelette" (Ambrosia).  
 "Serenade Lyric" (Elgar).  
 1.35 p.m.: Senia Chostakoff, tenor, "Amo Ti Vieta" (Gior-dano).  
 "Gipsy Song" (Korniloff).  
 1.40 p.m.: Station Orchestra, "Serenade Mauresque" (Elgar).  
 "Canzonetta" (Hollander).  
 1.45 p.m.: Close down.

## AFTERNOON SESSION.

- 2.0 p.m.: Description of the Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C., by Rod M'Gregor.  
 2.13 p.m.: Description of Two-year-old Handicap, four furlongs, at Mentone races, by Eric Welch.  
 2.20: Description of the Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C.  
 2.43 p.m.: Description of Welter Handicap, one mile, at Mentone races.  
 2.50 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C.  
 3.13 p.m.: Description of Brush Steeplechase, two miles one furlong, at Mentone races.  
 3.20 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C.  
 3.43 p.m.: Description of Mentone Handicap, 1½ miles, at Mentone races.  
 3.50 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C.  
 4.0 p.m.: Sonora recital.  
 4.13 p.m.: Description of Trial Plate, six furlongs, at Mentone races.  
 4.20 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C.  
 4.43 p.m.: Description of Trial Purse, six furlongs, at Mentone races.  
 4.50 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C.  
 5.0 p.m.: "Herald" news.  
 5.10 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C.  
 6.0 p.m.: Stumps scores.  
 During the afternoon results of the Koroit races will be given as they come to hand.

## EVENING SESSION.

Announcer: Maurice Dudley.

- 6.5 p.m.: Sporting results.  
 6.15 p.m.: Answers to letters and birthday greetings by "Little Miss Kookaburra."  
 6.40 p.m.: Musical interlude.  
 6.45 p.m.: "Little Miss Kookaburra" will tell a lovely story about Santa Claus and a goodwill story for the elder Kookaburres.



## NIGHT SESSION.

Announcer: Maurice Dudley.

Accompaniste: Agnes Fortune.

- 6.50 p.m.: Stock Exchange information.  
 7.0 p.m.: 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 Fruitgrowers' Association; wholesale prices of fruit by the Wholesale Fruit Merchants' Association; citrus fruits.  
 7.20 p.m.: News session; stumps scores, Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C.  
 7.28 p.m.: Birthday greetings.  
 7.30 p.m.: Out of the past.  
 7.31 p.m.: Frederick Chapman will speak on "The Antiquity of the Myrtle Family."  
 7.45 p.m.: A-maker of history.  
 7.46: Dr. J. A. Leach will speak on "Robins Yellow."  
 8.0 p.m.: Programme announcements.  
 8.1 p.m.: "The Desert Song," by permission of J. C. Williamson, Ltd; music by Sigmund Romberg; book by Otto Harbach, Oscar Hammerstein 2nd, and Frank Mandell. Produced by George A. Highland.

## CAST.

Sid el Kar (the Red Shadow's Lieutenant) ..... Herbert Browne  
 Mindar ..... Cecil Pawley  
 Hassi ..... Lou Vernon  
 Neri (first appearance in Australia), Maud Pomeroy  
 Haji (first appearance in Australia), John Ronald  
 Benjamin Kidd (Society Correspondent, Paris "Daily Mail") .. Herbert Mundin  
 Pierre Birabeau (The Red Shadow) Lance Fairfax  
 Capt. Paul Fontaine .. Reginald Dandy  
 Azuri ..... Stephanie Deste  
 Lieutenant La Vergne (first appearance), Donald Pomeroy  
 Lieut. Du Bassac ..... Owen Trappes  
 Margot Vonvalet (first appearance in Australia) ..... Virginia Perry  
 General Birabeau .. Peter Gawthorne  
 Susan (his ward) ..... Lorna Helms  
 Ethel ..... Aileen Barton  
 Ali Ben Ali (Caid of a Riff tribe) Douglas Herald  
 Clemintina (a Spanish lady) Maud Zimbla

## ACT I.

Scene 1.—Retreat of the Red Shadow in the Riff Mountains—evening.  
 Scene 2.—Outside General Birabeau's house—a few minutes later.  
 Scene 3.—A room in General Birabeau's house.

## MUSICAL NUMBERS.

- Prelude and Drinking Song.  
 "Ho"—Riding song of the Riffs—Lance Fairfax, Herbert Browne, and chorus.  
 "Margot"—Reginald Dandy and chorus gentlemen.  
 "I'll Be a Buoyant Girl"—Lorna Helms.  
 Ensemble—"Why Did We Marry Soldiers?"—chorus ladies.  
 French Marching Song—Virginia Perry and chorus ladies and gentlemen.  
 "Romance"—Virginia Perry and chorus ladies.  
 Trio—"Then You Will Know"—Lance Fairfax and Virginia Perry.  
 "I Want a Kiss"—Reginald Dandy, Virginia Perry, and Lance Fairfax.  
 "It"—Herbert Mundin, Lorna Helms, and ladies of the ballet.  
 "The Desert Song"—Lance Fairfax and Virginia Perry.  
 Finale.  
 9.25 p.m.: Eric Welch will describe to-night's events at the Stadium.  
 9.40 p.m.: The Station Orchestra—Suite, "Russet and Gold" (Sanderson).  
 "Nocturne" (Zarganoff).  
 9.50 p.m.: Senia Chostiaff, tenor—Two Russian Folk Songs and "Romance."  
 9.57 p.m.: The Station Quartet—"Slow Movement from Quartet" (Haydn).  
 10.4 p.m.: Eric Welch will again describe to-night's events at the Stadium.  
 10.19 p.m.: Mina Heseleva, soprano—"Aria" from "The Hugenots" (Meyerbeer).  
 "Angels, Guard Thee," with 'cello obbligato (Godard).  
 10.26 p.m.: The Station Orchestra—"Andante," Op. 166 (Schubert).  
 "Taranella," Op. 43 (Chopin).  
 10.33 p.m.: Mina Heseleva and Senia Chostiaff, soprano and tenor—Selected.  
 10.40 p.m.: The Station Orchestra—"Epilogue" (Gabriel Charlie).  
 10.45 p.m.: Late sporting results.  
 10.50 p.m.: The Radi-o-Aces—"Googily-Goo" (Davis).  
 "Adoree" (West).  
 "That Stolen Melody" (Fisher).

11 p.m.: Our great thought for to-day is—"Men are contented to be laughed at for their wit, but not for their folly."—(Swift).

- 11.1 p.m.: The Radi-o-Aces—"Chloe" (Kahn).  
 "I'm Tired of Making Believe" (Kelley).  
 "That's What You Mean to Me" (Davis).  
 "Chips"—piano solo (Masman).  
 "Just Like a Melody Out of the Sky" (Donaldson).  
 "Beloved" (Kahn).  
 "Because My Baby Don't Mean Maybe Now" (Donaldson).  
 "I Love to Dunk a Hunk of Sponge Cake" (Castill).  
 "Rain" (Ruby).  
 "Ramona" (Wayne).  
 "Clarinet Marmalade" (Fergus).  
 "Loneliness" (Pollack).  
 "Goodnight Waltz" (Bibo).  
 11.40 p.m.: "God Save the King."

## 3AR, MELBOURNE

Saturday, December 22

## MORNING NEWS SESSION.

- 10.0 a.m.: G.P.O. clock says "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: Frank Hatherley.

Accompanist: Reg. Brown.

- 11.0 a.m.: The Radi-o-Aces—"Last Night I Dreamed You Kissed me" (Kahn), "That's My Mammy" (Donaldson), "Who Knows" (Dixon), "Ah, Sweet Mystery of Life" (Herbert), "Evening Star" (Russell). 11.15 a.m.: Rita Hilton, soubrette—"Bill and Coo" (O'Hagan), "A New Kind of Man" (Claire). 11.22 a.m.: The Radi-o-Aces—"Down Home," rag (Sweatman), "We'll Have a New Home in the Morning" (Buck), "In a Bamboo Garden" (Donaldson), "Anything You Say," "My Melancholy Baby." 11.37 a.m.: Rita Hilton, soubrette—"I Do Kind of Feel I'm in Love" (Christine), "Jogging Along" (Tenant). 11.44 a.m.: The Radi-o-Aces—"Constantinople" (Carlton), "Don't Cry, Baby" (Kahn), "Love Affairs" (Robinson), "Jazz Master," piano solo (May-erel), "In My Bouquet of Memories" (Lewis). 12 noon: Close down.

## AFTERNOON SESSION.

Announcer: Frank Hatherley.

Accompanist: Reg. Brown.

- 3.0 p.m.: Coburg City Band—March, "Royal Australian Navy" (Lithgow); Fantasia, "Wundermere" (Allan). 3.15 p.m.: Jean Lewis, contralto—"I Love You More" (Lee), "A Youth Once Loved a Maiden" (White). 3.22 p.m.: Coburg City Band—Waltz, "Fascination" (Rimmer). 3.22 p.m.: Ralph Thomson, baritone—"The Garonne" (Adams), "Love is an Ocean" (Lohr). 3.39 p.m.: Norman Farmer, flautist—"Hungarian Fantasia" (Buchner), "Humoreske" (Hahocker). 3.46 p.m.: Bessie Banks, soprano—"The String of Pearls" (Phillips), "April's a Lady" (Phillips). 3.52 p.m.: Coburg City Band—Overture, "Diamond Cross" (Greenwood). 4.2 p.m.: Jean Lewis, contralto—"The Red Sarafan" (Russian folk song), "Her Dream" (Waller). 4.9 p.m.: Coburg City Band—Intermezzo, "Starland" (O'Connor); march, "Senlac Abbey" (Greenwood). 4.19 p.m.: Ralph Thomson, baritone—"Maire, My Girl" (Aitken), "Tomorrow" (Keel). 4.26 p.m.: Norman Farmer, flautist—Selection, "La Traviata" (arr. Popp). 4.33 p.m.: Bessie Banks, soprano—"Aria," "Santuzza" (Mascagni); "Land of the Long Ago" (Ray). 4.40 p.m.: Coburg City Band—Fox-trot, "You're a Real Sweetheart" (Friend); intermezzo "Somewhere in France" (Homan); march "On Quarter-deck." 5.0 p.m.: Close down.

## EVENING SESSION.

6.0 p.m.: A recital of the works of the master musicians.

## NIGHT SESSION.

One-act play: "Soldiers' Daughters."

Announcer: John Stuart.

Accompanist: Reg. Brown.

- 8.0 p.m.: All sporting results.  
 8.30 p.m.: Johnson's Studio Boys—March, "Behind the Hounds"; overture, "Gabri-

ana"; march, "20th Century."  
 8.45 p.m.: The Donian Quartette—"My Little Log Cabin of Dreams" (Dowling), "My Ohio Home" (Dowling).  
 8.52 p.m.: Johnson's Studio Boys—Selection "Classic Gems."

9.2 p.m.: Allan Mitchell, tenor—"In the Great Unknown (d'Hardelot), "La Danza" (Rossini).

9.9 p.m.: One-act play, "Soldiers' Daughters," by Cosmo Hamilton. The Victorian Railways Institute Dramatic Society, under the direction of Winifred Moverley. Cast: Helen Meredith (a typist), Miss Flora Sproston; Pamela Meredith (an actress), Miss Mary Page; Jane (their servant), Miss Elsie Mock. The scene is a poorly-furnished room in the Meredith flat. On the back wall is hanging a portrait of a soldier, Colonel Meredith, and underneath the portrait is hanging a sword. There is a typewriter on a table, right centre of the room, and a table near the fireplace left is laid for supper. Helen Meredith is anxiously searching about the room for some missing article, and our play commences.

9.30 p.m.: Reg. Brown, piano—"Valse Op. 34" (Chopin). "Valse Op. 7" (Chopin), "Valse Op. 64" (Chopin).

9.40 p.m.: The Donian Quartette, "Selected."

9.47 p.m.: C. E. Monteath, organ transmission from St. Peter's Church, Eastern Hill—"March upon a theme of Handel" (Guilmant); "Offertory upon two French Carols" (Guilmant); choral prelude, "In Thee is Joy" (J. S. Bach); "Fantasy on Christmas Themes" (C. E. Monteath); "Hallelujah Chorus," "The Messiah" (Handel).

10.0 p.m.: From the studio. H. Raynor Phillips, baritone—"Sons of the Sea" (Coleridge Taylor), "Land of Delight" (Sanderson).

10.7 p.m.: Johnson's Studio Boys—"Russian Cradle Song"; march, "Port Lincoln" (Ord Hume); "Selected."

10.22 p.m.: News session—News; announcements; sporting results.

10.29 p.m.: Our Australian Good-night Quotation.

10.30 p.m.: God Save the King.

## 4QG, BRISBANE

Saturday, December 22

## MORNING SESSION.

Announcer: J. Tyson.

- 7.43 a.m.: Time signal. 7.45 a.m.: News service supplied by courtesy of "The Daily Mail." 8.0 a.m.: Some electric records. 8.15 a.m.: News service supplied by courtesy of "The Courier." 8.30 a.m.: Close down.

## NO MID-DAY TRANSMISSION.

## NO MORNING SESSION.

## AFTERNOON SESSION.

Announcer: R. Wight.

B.A.T.C. Races.—The B.A.T.C. race meeting will be relayed from Albion Park racecourse. Transmission will commence with the start of the first race. From Albion Park.—B.A.T.C. races. 5.0 p.m.: Close down.

## EARLY EVENING SESSION.

6.0 p.m.: News bulletin for distant listeners, supplied by courtesy of "The Queenslanders." 6.30 p.m.: Bedtime stories, conducted by "Uncle Ben." 7.15 p.m.: Racing results.—7.20 p.m.: To-day's sporting news described. 7.30 p.m.: Sailing notes by Mr. Fred. Smith.

## NIGHT SESSION.

The Orpheans.—8.0 p.m.: The Studio Orpheans (conductor, Tom Muller), "The Storm" (Burner); Ray Bruce (tenor), "Fleurette" (Lohr); Lucy Baker (pianiste), "Valse de Concert" (Wieniawski); Helen Post-Mason (soubrette), "Anything You Say"; Fred. Crane (baritone), "Neath the Rolling Tide" (Jude); the Orpheans, octette, "In Praise of Song" (Maurer); Rhoda G. Husband (soprano), "Just Love Me" (Phillips); Tom Muller (elocutionist), "Jim" (Parks), accompanied by the Orpheans; J. P. Cornwell (bass), "The Storm Fiend" (Roeckel); Lucy Baker (pianiste), "Butterfly Study" (Chopin); Fred. Crane (baritone), "Calling" (Lums-daine), accompanied by the Orpheans; Helen Post-Mason (soubrette), "Just a Melody"; Ray Bruce (tenor), "Let the End of the World Come To-morrow" (Ball), accompanied by the Orpheans; C. Rice (tenor), "The Fiesta" (Squire); The Or-



pheans, octette, "The Harp That Once" (Moore).

## STADIUM.

9.0 p.m.: A description of the main boxing match will be relayed from the Stadium.

## LENNON'S BALLROOM.

10.0 p.m.: From Lennon's Ballroom, dance music.

10.30 p.m.: From the studio, "The Daily Mail" news, "Courier" news, weather news. Close down.

## 5CL, ADELAIDE

Saturday, December 22

## MORNING SESSION.

Announcer: J. L. Norris.

11 a.m.: G.P.O. chimes. 11.1 a.m.: Late sporting selections for Moonee Valley by Mr. Eric Welch, 3LO's Special Sporting Commissioner. 11.4 a.m.: "The Advertiser" general news service. 11.25 a.m.: British official wireless news. 11.30 a.m.: Musical interlude; Sonora recital of world famous Parlophone artists. 11.45 a.m.: Late sporting selections for Moonee Valley by Mr. Eric Welch, 3LO's Special Sporting Commissioner. 11.51 a.m.: 5CL's sporting calendar. 11.55 a.m.: Sonora recital of world-famous Parlophone artists. 12 noon: G.P.O. chimes and close down.

## AFTERNOON SESSION.

Announcer: J. L. Norris.

1.0 p.m.: G.P.O. chimes. 1.1 p.m.: From Morphettville racecourse, positions and riders for Maiden Handicap. 1.15 p.m.: From Morphettville racecourse, description of Maiden Handicap by Mr. Arnold Treloar. 1.20 p.m.: Studio music, recital of famous Parlophone recordings on the Sonora. 1.45 p.m.: Moonee Valley race results; international cricket scores. 1.50 p.m.: From Morphettville racecourse, positions and riders for Summer Hurdles. 1.55 p.m.: Studio music, recital of Parlophone recordings on the Studio Recreator. 2.5 p.m.: From Morphettville racecourse, running description of Summer Hurdles by Mr. Arnold Treloar. 2.10 p.m.: Moonee Valley races, result of Barkoola Handicap. 2.11 p.m.: Studio music; a few minutes with famous H.M.V. Jazz Orchestras. 2.30 p.m.: From Morphettville racecourse, positions and riders for December Handicap. 2.35 p.m.: Sonora recital by Columbia jazz experts, Paul Whiteman and his Orchestra. 2.44 p.m.: Moonee Valley races, result of Koombahla Maiden Plate. 2.45 p.m.: From Morphettville racecourse, description of the December Handicap by Mr. Arnold Treloar. 2.50 p.m.: From the studio, Sonora recital of H.M.V. recordings. 3.0 p.m.: Resume of sporting results. 3.10 p.m.: From Morphettville racecourse, positions and riders for Juvenile Handicap. 3.15 p.m.: Studio music, a few more minutes with Parlophone Celebrity Artists. 3.24 p.m.: Moonee Valley race results. 3.25 p.m.: From Morphettville racecourse, description of Juvenile Handicap by Mr. Arnold Treloar. 3.30 p.m.: Relay from South Australian Lawn Tennis Association courts; memorial drive of the English Team v. South Australia, by Mr. F. J. Mills. 3.50 p.m.: From Morphettville racecourse, positions and riders for Handicap Welter. 3.55 p.m.: Studio music, Sonora recital of world-famous Columbia recordings. 4.0 p.m.: Resume of Moonee Valley and Tattersall's meetings. 4.5 p.m.: From Morphettville racecourse, description of the Handicap Welter by Mr. Arnold Treloar. 4.10 p.m.: Studio music, 20 minutes with world-famous H.M.V. artists. 4.30 p.m.: Moonee Valley races, result of Argyle Highweight Handicap. 4.31 p.m.: From Morphettville racecourse, positions and riders for Closing Handicap. 4.45 p.m.: Running description of Closing Handicap by Mr. Arnold Treloar. 4.50 p.m.: Studio music, recital of Parlophone recordings on the Sonora. 4.58 p.m.: Resume of sporting results. 5.0 p.m.: G.P.O. chimes and close down.

## EVENING SESSION

Announcer: Athol Lykke.

6 p.m.: G.P.O. chimes. 6.1 p.m.: Resume of late sporting; International cricket scores, second Test match, at Sydney. 6.10 p.m.: Children's happy moments: Birthday greetings, correspondence, songs and stories by "The Wattle Lady." 6.40 p.m.: Dinner music session: Sonora recital of world-famous Parlophone recordings. 6.55 p.m.: International cricket scores, second Test match, at Sydney. 7

p.m.: G.P.O. chimes. 7.1 p.m.: S. C. Ward and Co.'s Stock Exchange information. 7.7 p.m.: Station announcements. 7.10 p.m.: Rev. G. E. Hale, B.A.: talk on "The Art of Elocution." 7.25 p.m.: "Willow"; in a resume of the afternoon's cricket. 7.35 p.m.: C. G. Riley, talk on "Items of Interest." 7.45 p.m.: 5CL's sporting service, including Tattersall's and Moonee Valley race results, international cricket scores, second Test match, at Sydney, international tennis scores.

## NIGHT SESSION

8 p.m.: G.P.O. chimes. 8.1 p.m.: A band concert, Hindmarsh Municipal Band. March, "Elephant" (Hume). Overture, "The Village Bride" (Rimmer). 8.13 p.m.: Sydney Burchall, popular baritone "A Banjo Song" (Homer). "Mother o' Mine" (Tours). 8.20 p.m.: Hilda Riemann, violiniste. "Rondino" (Kreisler). "Minuet" (Beethoven). 8.27 p.m.: Sydney Hollister, humorist. In comedy sketches. 8.32 p.m.: Hindmarsh Municipal Band. "Gems from Operas" (Sullivan). 8.44 p.m.: Mrs. Keith Steward, soprano. "Christina's Lament" (Dvorak). "The Fairie Pipers" (Brewer). 8.50 p.m.: Hindmarsh Municipal Band. "Drum Head's Church Parade" (Hume). 9 p.m.: G.P.O. chimes. 9.1 p.m.: Sydney Burchall, popular baritone. "Here in the Quiet Hills" (Purcell). "Drums of Life" (Lohr). 9.7 p.m.: Hilda Riemann, violiniste. "Largo" (Handel). "Ave Maria" (Schubert). 9.14 p.m.: Sydney Hollister, humorist. Humorous interlude. 9.20 p.m.: Hindmarsh Municipal Band. Waltz, "Delliah" (Nicholls). 9.27 p.m.: Frank M'Cabe, baritone. "Still as the Night" (Bohm). "Simon the Cellarer" (Hatton). 9.34 p.m.: Hilda Riemann, violiniste. Selected solos. 9.40 p.m.: Mrs. Keith Steward, soprano. "A Song of Thanksgiving" (Allitsen). "There is a Land" (Allitsen). 9.46 p.m.: Hindmarsh Municipal Band. Serenade, "Moonlight" (Meret). March, "Uncle Sammy" (Holzman). 9.55 p.m.: Frank M'Cabe, baritone. "Two Grenadiers" (Schumann). "Fleurette" (M'Geoch). 10.2 p.m.: Hindmarsh Municipal Band. Indian Characteristic, "Four Indian Love Lyrics" (Finden). 10.15 p.m.: 5CL's sporting service. Including Tattersall's and Moonee Valley race results. International cricket scores, second Test match, at Sydney. International tennis scores. 10.29 p.m.: Our Goodnight Thought. Is he dead whose glorious mind Lifts mine on high? To live in hearts we leave behind, Is not to die. —Campbell. 10.30 p.m.: By courtesy of 3LO, Melbourne. Modern dance numbers by the Radios-Aces. 11.10 p.m.: God Save the King.

## 6WF, PERTH

Saturday, December 22

12 noon: Tune in. 12.5 p.m.: Musical programme, including pianoforte selections by Miss Audrey Dean. 12.47 p.m.: Markets, news, cables, and cricket scores. 1.0 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. 3.15 p.m.: Tune in. 3.20 p.m.: Racing results and general sporting news; musical programme from the studio, including vocal and instrumental numbers. At intervals during the afternoon progress results of the cricket match between the English Eleven and Hunter River, played at Newcastle, will be broadcast. 5.5 p.m.: Close down. 6.45 p.m.: Tune in. The evening transmission is broadcast on 104.5 metres, as well as the usual wave length. 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, cables, and cricket scores. 7.45 p.m.: Talk. 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; motor cycling events described in detail; relayed from Claremont Speedway. 9.0 p.m.: Late news items by courtesy of "The Daily News" Newspaper Co.: ships within range announcement; weather report and forecast; station announcements; sports results. 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

Saturday, December 22

## MIDDAY 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 Stations 9 a.m. weather report. 12 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's 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 Two-Year-Old Handicap, 4 furlongs, run at Mentone racecourse, Mentone, Melbourne, Victoria. 2.20 p.m.: Close down. 2.45: Des. Welter Hcp., Mentone R.C., Melbourne. 2.50: Close down.

## AFTERNOON SESSION.

Announcer: Jack Broadbent.

3 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. 3.15 p.m.: Running description of Brush Steeplechase, 2 miles 1 furlong, run at Mentone racecourse, Mentone, Melbourne, 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 Mentone Handicap, 1½ mile, run at Mentone racecourse, Mentone, Melbourne, 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 p.m.: His Master's Voice in Moments Merry and Musical. 4.15 p.m.: Running description of Trial Plate, six furlongs, run at Mentone racecourse, Mentone, Melbourne, 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. 4.50 p.m.: All sporting results to hand. 5 p.m.: Close down. During the afternoon progress results will be given of the tennis match, England v. Tasmania, at Launceston.

## EARLY EVENING SESSION

## CHILDREN'S HOUR

6.0 p.m.: All sporting results to hand. 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

Announcer: Jack Broadbent.

7.30 p.m.: A special article on "Spotting the Winner;" a well-known judge explains how it is done. 7.45 p.m.: Serial story. "The Nobbled Favorite," a stirring story of the turf (conclusion). A fitting final to a stirring racing story of love and the turf. 8.0 p.m.: G.P.O. clock chimes the hour. 8.1 p.m.: "Fifty Years Ago To-day: Did it happen so long ago as that?" 8.6



p.m.: His Master's Voice in moments merry and musical. 8.15 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 Service. Ships within wireless range. Tasmanian District weather report. 10.23 p.m.: Our Tasmanian good-night thought. God Save the King. Close down.

## Sunday, December 23

New South Wales Broadcasting Company, Limited

### 2FC SERVICE

#### MORNING SESSION.

Announcer: A. S. Cochrane.

- 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 St. Thomas' Church of England, Rozelle. Minister, Rev. J. F. Chappel. Organist, Mr. Geo. Boulton.  
Organ.  
Hymn No. 1.  
Opening Prayers, Venite, and 116th Psalm.  
First Lesson, Te Deum.  
Second Lesson, Jubilate.  
Creed and Final Prayers.  
Hymn 83.  
Sermon, Rev. J. F. Chapple.  
Closing Hymn, 312.  
Benediction.  
Prayers by Rev. W. T. Roach, F.Ph.  
12.15 p.m. Approx.: Close down.

#### AFTERNOON SESSION.

Announcer: A. S. Cochrane.

- 2.30 p.m.: Programme announcements.  
2.32 p.m.: The Children's Session, conducted by the "Hello Man."  
3.0 p.m.: Studio Music.  
3.30 p.m.: From Band Rotunda, Manly Beach.  
The Manly Municipal Military Band.  
5.0 p.m.: Close down.

#### EVENING SESSION.

Announcer: A. S. Cochrane.

- 6.0 p.m.: "Big Ben" programme announcements.  
6.5 p.m.: An hour with the great composers. Programme arranged by Madame Evelyn Greig (pianist).  
Associate Artists: Rene Rich (violinist). J. G. Chidgey (cellist).  
Madame Irene Deveaux (soloist).  
Trio for Violin, Violoncello, and Piano.  
(a) "Chant Sans Paroles" (Tchaikowsky).  
(b) "Wiegenlied" (Cradle Song), Schubert).  
Song, "Had You But Known" (Denza).  
Violin, (a) "Scherzo Tarentelle" (Wieniawski).  
(b) "Prayer" (Schubert).  
Piano, "Liebestraum" (by request), (Liszt).  
Song, "Echoes" (Allen).  
Piano and Violin (a) "Recitative, Fantasia" (Cesar Franck).  
(b) "Allegretto" from the "Sonata" for Piano and Violin.  
Trio (a) "Gopak" (Moussorgski).  
(b) "Andante Cantabile" (Tchaikowsky).  
7.0 p.m.: From St. Mark's Church of England, Darling Point, Organ, Recital, Carols, and Anthem.  
7.30 p.m.: The Evening Service, conducted by Canon E. Howard Lea.  
8.30 p.m.: From Band Rotunda, Manly Beach. The Manly Municipal Military Band.  
9.30 p.m.: From the Studio.  
Gladys Evans (soprano).  
9.37 p.m.: Beatrice Tange (pianist).  
(a) "Rhapsody in E Flat" (Brahms).  
(b) "Waltz, C Sharp Minor" (Chopin).  
9.47 p.m.: Gladys Evans (soprano).  
9.54 p.m.: Beatrice Tange (pianist).  
(a) "Gnomenreigen" (Liszt).  
(b) "Revolutionary Study" (Chopin).  
10.4 p.m.: Record recital of the world's noted artists.  
10.30 p.m.: National Anthem.  
Close down.

## 2BL SERVICE

Sunday, December 23

#### MORNING SESSION

Announcer: A. C. C. Stevens.

- 11 a.m.: G.P.O. clock and chimes.  
Morning Service broadcast from Burton Street Baptist Church, Sydney. Minister, Rev. G. A. Hercus.  
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.  
From the Arcadia Theatre, Chatswood.  
Wurlitzer organ recital by Mr. N. Robins.  
1. Overture, "The Bohemian Girl" (Balfe).  
2. "My Prayer" (Squire).  
3. "Song of the Flame" (Stothart).  
4. "My Angel."  
Studio music.  
From Arcadia Theatre, Chatswood.  
Wurlitzer organ recital by Mr. Robins.  
5. "At Dawning" (Cadman).  
6. Pot Pourri of Popular Classics (2nd series).  
7. "For You Alone" (Geehl).  
8. Favorite Operatic Airs.  
4.0 p.m.: G.P.O. clock and chimes.  
From the Balmain Methodist Mission.  
Pleasant Sunday afternoon, Minister, Rev. W. McKibben.  
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 sacred session, conducted by Uncle David, the Children's Chaplain.  
Introducing Uncle David.  
A chorus for the young folks to learn.  
A Bible story.  
An old favorite hymn that mother sings.  
Family Prayer and recitation of the Lord's Prayer.  
Good-night and the children's benediction.  
6.20 p.m.: Letters and stories conducted by Uncle Bass.  
7 p.m.: From the Randwick Presbyterian Church.  
The Evening Service, conducted by Rev. W. J. Grant.  
Organist, Mr. Eric Barnard.  
Choirmaster, Mr. George Sherring.  
8.3 p.m.: From the King's Cross Theatre.  
Mr. Joseph Wayne at the Wurlitzer organ.  
8.45 p.m.: Camille Alder, soprano.  
(a) "Ave Maria" (Kahn).  
(b) "I did not know" (Finden).  
8.52 p.m.: Joseph Wayne at the Wurlitzer organ.  
9.7 p.m.: Alfred Wilmore, tenor.  
(a) "Still wie die nacht" (Bohn).  
(b) "Si mes vers avaient des ailes" (Hahn).  
9.14 p.m.: Joseph Wayne at the Wurlitzer organ.  
9.29 p.m.: Camille Alder, soprano.  
(a) "It is not because my heart is mine" (Loehr).  
(b) "Wait" (D'Hardelot).  
9.35 p.m.: Joseph Wayne at the Wurlitzer organ.  
9.50 p.m.: Alfred Wilmore, tenor.  
(a) "Obstination" (De Fontenailles).  
(b) "Feldeinsamkeit" (Brahms).  
(c) "Wind in the trees" (Goring Thomas).  
9.57 p.m.: From the studio.  
Resume of following day's programme.  
10.0 p.m.: G.P.O. clock and chimes.  
National Anthem.  
Close down.

## 2GB, SYDNEY

Sunday, December 23

- 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.

## 2UW, SYDNEY

Sunday, December 23

- 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.: Musical programme. 10 p.m.: Close down.

## 3LO, MELBOURNE

Sunday, December 23

#### MORNING SESSION.

Announcer: Frank Hatherley.

- 10.30 a.m.: Bells from St. Paul's Cathedral.  
10.45 a.m.: Express train information.  
British official wireless news from Rugby.  
News from yesterday's papers. 11.0 a.m.: Morning service from Scots' Church, Collins Street, Melbourne. Preacher, The Rev. Dr. W. Borland. Hymn 28, "Hark, the Herald Angels Sing." Prayer. Prose Psalm 24, "The Earth is the Lord's." Old Testament Lesson, Isaiah 9, v. 1-7. Hymn 528, "See! In Yonder Manger." Prayer of Intercession. New Testament Lesson, St. Luke 2, v. 1-20. Anthem, from "The Messiah," "There were Shepherds Abiding in the Field" (Handel). The Lord's Prayer (the congregation, standing, will unite). Sermon, "The Child Called Wonderful," Isaiah 9, v. 6. Prayer. Intimations. Offering. Hymn 35, "As With Gladness." Benediction. 12.15 p.m.: Close down.

#### AFTERNOON SESSION.

Announcer: Frank Hatherley.

- 2.0 p.m.: Sonora recital of the world's most famous records. Orchestral, "Faust," ballet music (Gounod). First, second, third, and fourth movements. Royal Opera Orchestra, Covent Garden (Guest Conductor, George W. Byng). Aria, "Romeo et Juliette" (Waltz Song), (Gounod), Evelyn Scotney (soprano). Sacred song, "Adeste Fideles," in Latin, John M'Cor-nack (tenor). Orchestral, "The Magic Flute" overture (Mozart). Parts 1 and 2. Berlin State Opera Orchestra (conducted by Dr. Leo Blech). Song, "Granadinas" (Farewell, My Granada), (Calleja-Barrera), Tito Schipa (tenor). Orchestral, "The Mastersingers" overture (Wagner), Parts 1 and 2, Symphony Orchestra (conducted by Albert Coates). Choral, "Lead Us, Heavenly Father" (Fillitz). "Sevenfold Amen" (Stainer). "The Voice that Breathed O'er Eden" (Gauntlett), choir of St. Margaret's, Westminster (conducted by Stanley Roper). 3.0 p.m.: Pleasant Sunday Afternoon, Wesley Church Central Mission, Lonsdale Street, Melbourne. Chairman, Rev. J. H. Cain. Hymn No. 68, "Sing We the King Who is Coming to Reign." Prayer, Rev. C. Irving Benson. Orchestral selection, Mr. G. M. Williams, conductor. Hymn No. 100, "Have You had a Kindness Shown?" Solo, Miss Grace Jackson. Orchestra. Solo, Miss Grace Jackson. Notices. Offering. Orchestra. Address, Dr. A. M'Callum, "The Message of Christmas to the World." National Anthem. Benediction. Orchestra. 4.30 p.m.: Close down.

#### EVENING SESSION.

- 5.45 p.m.: Shipping information. 5.47 p.m.: Answers to letters and birthday greetings by "Bobby Bluegum." 6.25 p.m.: "Brother Bill," "The Spirit of Christmas." 6.45 p.m.: Adult birthday greetings and programme announcements. 6.47 p.m.: Bells from St. Paul's Cathedral.

#### NIGHT SESSION.

Announcer: Frank Hatherley.

Accompanist: Mabel Nelson.

- 7.0 p.m.: Evening service from Wesley Church, Lonsdale Street, Melbourne, conducted by Rev. C. Irving Benson.  
Introit, "The Lord is in His Holy Temple." Prayer, The Outer Gate.  
Hymn, "It Came Upon the Midnight Clear." Prayer, The Inner Court.  
Carols.  
Scripture reading.  
Intimations and offering.  
Carols.  
Hymn, "Away in a Manger." Sermon, Rev. C. Irving Benson.  
Hymn, "From the Eastern Mountains." Benediction.  
Sevenfold Amen.  
8.30 p.m.: Malvern Tramways Band.  
Overture, "Tancredi" (Rimmer).  
8.40 p.m.: Edouard and Raymond Lambert (violin and piano).  
Sonata in D Minor (Saint-Saens).  
8.50 p.m.: Mina Heseleva (soprano, by permission J. C. Williamson, Ltd.).  
"Polonaise Mignon" (Thomas).  
"Snow Maiden" (Rimsky-Korsakoff).  
8.57 p.m.: Malvern Tramways Band.  
March, "King's Guard" (Keith).  
9.2 p.m.: Stephanie Deste, a recital (by permission J. C. Williamson, Ltd.).  
9.14 p.m.: Edouard Lambert (violin).



- "Walters Preislied" (Wagner).  
 9.21 p.m.: Malvern Tramways Band.  
 Cornet solo, selected; soloist, J. Alway.  
 9.28 p.m.: Mina Heseleva (soprano), "Bell Song," from "Lakme" (Delibes).  
 "Nightingale" (Blabieff).  
 9.35 p.m.: Raymond Lambert (piano).  
 "Study in E Sharp Minor" (Chopin).  
 "Hark, Hail the Lark" (Schubert-Liszt).  
 "Zuha Dame" (Dett).  
 9.42 p.m.: Malvern Tramways Band.  
 March, "Red Gauntlet" (Rimmer).  
 9.50 p.m.: "Argus" news session. Announcements.  
 Our Great Thought for To-day.  
 10.0 p.m.: God Save the King.

## 3AR, MELBOURNE

Sunday, December 23

### MORNING SESSION.

Announcer: Frank Hatherley.

- 11 a.m.: Morning service from Collins Street Baptist Church.  
 Xmas Carol Service.  
 Preacher: Rev. W. D. Jackson, B.A.  
 Choir Director: Madame Ella Kingston.  
 "The Hallowed Season Comes Again."  
 "I Sing the Birth" (Parry).  
 "The Shepherds Found Thee by Night" (Shaw).  
 "Good King Wenceslas."  
 "Ring Out, Wild Bells."  
 "And the Glory" (The Messiah).  
 "The Hallelujah Chorus."

### AFTERNOON SESSION.

- 3 p.m.: Superphonic Harmonics.  
 4.30 p.m.: Close down.

### EVENING SESSION.

- 5 p.m.: "Brer Rabbit."  
 "With a tale, forsooth, he cometh unto you; with a tale which holdest children from play, and old men from the chimney corner."  
 5.30 p.m.: CLOSE DOWN.

### NIGHT SESSION.

Announcer: John Stuart.

Accompanist: Vera Howe.

- 7 p.m.: Masterpieces in major and minor Modes.  
 8 p.m.: The Strad Trio (Cecil Parkes, violin; May Broderick, piano; Frank Johnstone, cello).  
 Trio, G Major (Mozart).  
 Allegro (Mozart).  
 Andante and Variations (Mozart).  
 9.14 p.m.: J. Alexander Browne, baritone.  
 "Within These Sacred Bowers" (Mozart).  
 "Appear in All Thy Beauty" (Mozart).  
 8.18 p.m.: Norman Farmer, flautist.  
 "Valse Poetique" (De Jong).  
 "Gipsy Dance" (German).  
 8.25 p.m.: The Strad Trio.  
 Two Violins and Piano.  
 Sonata F Major W9 (Mozart).  
 Variations (Mozart).  
 Menuetto (Mozart).  
 Allegro (Mozart).  
 "Corgi Amor" (Mozart).  
 8.38 p.m.: Myrtle Skinner, soprano.  
 "Genozze di Vigars" (Mozart).  
 8.45 p.m.: A. S. Kenyon will speak on the Ethnology of the Australian Aboriginal:—  
 2. "The aboriginal—his coming to Australia."  
 9.5 p.m.: The Strad Trio.  
 Three Violins and Piano.  
 Sonata E Flat W5 (Mozart).  
 Allegro (Mozart).  
 Rondo (Mozart).  
 9.14 p.m.: J. Alexander Browne, baritone.  
 "Droop Not Young Lover" (Handel).  
 "Hear Me Ye Winds and Waves" (Handel).  
 9.20 p.m.: Norman Farmer, flautist.  
 "Le Babillard" (Terschak).  
 "Valse Gracieuse" (German).  
 9.27 p.m.: Myrtle Skinner, soprano.  
 "Le nozzedo vigaro" (Mozart).  
 "Don Giovanni" (Mozart).  
 9.34 p.m.: The Strad Trio.  
 Four Trios.  
 "Larghetto."  
 "Menuetto."  
 "Rondo Alla Turca."  
 9.47 p.m.: News; announcements.  
 9.59 p.m.: Our Australian Good-night quotation.  
 10 p.m.: God Save the King.

## 4QG, BRISBANE

Sunday, December 23

### EARLY MORNING SESSION.

- 7.30 a.m.: From St. Barnabas: Holy Eucharist from the Book of Common Prayer; Introit, Psalm 96; Epistle, Phillipians, chapt. 4, verses 4 to 7; Gospel, St. John, chapt. 1, verses 19 to 28; Offertory, hymn 203, "Thou art coming"; communion, hymn 191, "Jesu, My Lord, I Thee adore"; Ablutions, hymn 51, "Lo, He Comes"; address by Canon Garland. Close down.

### MORNING SESSION.

- 11 a.m.: From St. Barnabas: Holy Eucharist with Epistle and Gospel as above; Introit, hymn 49, "O Come, Emmanuel"; hymn 47, "Hark a Thrilling Voice"; sermon by Canon Garland; offertory, solo (Mr. W. G. Ashlin), "Comfort Ye My People" (from "The Messiah"); Communion, hymn 312, "Thee We Adore, O Hidden Saviour"; Ablutions, hymn 51, "Lo, He Comes."

### AFTERNOON SESSION

- 3.15 p.m.: From the Botanic Gardens, Band Concert. 4.30 p.m.: Close down.

### EARLY EVENING SESSION.

- 6.30 p.m.: From the Studio, A session for little listeners. Greetings and replies to letters.

### NIGHT SESSION.

- 7 p.m.: From St. Barnabas. Children's session: Hymns: 48, "The Advent of Our King"; 569, "Do No Sinful Action"; 346, "Now the Day is Over"; Lesson, St. Matthew, chapt. 25, verses 1 to 13; children's Catechising by Canon Garland  
 7.30 p.m.: Evensong from the Book of Common Prayer; Hymn 289, "Days and Moments"; Psalm 98; Lessons: Isaiah, chapt. 35, St. Matthew, chapt. 25, from verse 31, hymn 52, "Great God, What Do I See and Hear?" 288, "A Few More Years"; solo by Miss E. Honniball, "O, Divine Redeemer" (Gounod); sermon by Canon Garland; Hymn Book (all services)—"Ancient and Modern."

### BRISBANE MUNICIPAL CONCERT BAND.

At the conclusion of the church service the concert by the Brisbane Municipal Concert Band will be relayed from Wickham Park. From Wickham Park—Band concert.

- 9.30 p.m.: Close down.

## 5CL, ADELAIDE

Sunday, December 23

### MORNING SESSION

Announcer: Athol Lykke.

- 10.50 a.m.: Peal of bells from the Adelaide Town Hall. 11.0 a.m.: G.P.O. chimes. Religious service, broadcast from the Parkside Baptist Church: Organ voluntary, Miss Gertrude Coudrey; Sanctus; Invocation; Lord's Prayer (chanted); Hymn 78, "Hark, the Glad Sound"; Scripture, Luke, Chapter 2, Verses 1-19; children's address; solo, Mr. J. Clark; announcements and offertory; Young Folks' item; prayer, Rev. A. E. Summers; anthem, "What Mean Those Holy Voices?"; Hymn 81, "While Shepherds Watched"; address, "The Dawn." Rev. Bernard E. C. Tuck, B.A. (President S.A. Baptist Union); Hymn 86, "O, Come all ye Faithful"; benediction; organ voluntary, Miss Gertrude Coudrey. 12.15 p.m.: From the Studio: British official wireless news. 12.20 p.m.: Close down.

### AFTERNOON SESSION.

Announcer: J. L. Norris.

- 3.0 p.m.: G.P.O. chimes. A Sonora recital, Columbia recordings. Don Cossack Choir: "We Praise Thee, O Lord" (Tschaiowsky), "Platoff's Song" (Old Cossack song). H.M. Grenadier Guards' Band: Wilfred Sanderson's Popular Songs (arr. J. Ord Hume), introducing—"Drake Goes West," "My Dear Soul," "Easter Flowers," "Captain Mac," "Friend o' Mine," "The Company Sergeant Major," "Tired Hands," "Up From Somerset," "Until." Grand Symphony Orchestra: "Ballet Egyptian" (Luigini)—(1) "Allegro," (2) "Allegretto," (3) "Andante Sostenuto," (4) "Andante and Allegro." Don Cossacks' Choir: "The Imprisoned Cossacks" (Nitscherensky), "Signal March of the Cavalry" (Kotilen). H.M. Grenadier Guards' Band: March Medley, "Martial Moments" (arr. Aubrey Winter), "W. H. Squire's Popular

Songs"; march, "Argandal" (Thompson); march, "The New Colonial" (Hall). G.P.O. chimes, and close down.

### EVENING SESSION.

Announcer: J. L. Norris.

- 6.0 p.m.: G.P.O. chimes.  
 6.1 p.m.: S.A. Railway information.  
 6.2 p.m.: Birthday greetings, correspondence, songs and stories by "Aunt Peggy," followed by the story of "The Star of Bethlehem."  
 6.25 p.m.: Carillon of bells from the Adelaide Town Hall.  
 6.35 p.m.: Christmas hymns and choral service conducted by "The Bird Lady" and "The Sunshine Songsters."  
 7 p.m.: G.P.O. chimes.  
 7.1 p.m.: A Divine Service relayed from Maughan Church, Franklin Street, Adelaide: Christmas Carol service. Choir of 50 voices—"The Star of Bethlehem," conducted by Mr. J. Higgins. Organist, Mr. Montague Finlay; pianist, Miss Melva Bartle; preacher, Rev. W. H. Cann. From the Studio: Instrumental and vocal concert.  
 8.25 p.m.: Bijou String Trio—"Moments Musicale" (Schubert).  
 "Valse Brillante" (Chopin).  
 8.35 p.m.: Aileen Newlyn, Soprano—"Ave Maria" (Gounod).  
 "O Divine Redeemer" (Gounod).  
 8.41 p.m.: Bijou String Trio—"Kol Nedrei."  
 8.46 p.m.: A Christmas Drama, "Scrooge's Christmas," performed by Adelaide Amateur Dramatic Club.  
 9.20 p.m.: Bijou String Trio—"Waltz" (Chopin).  
 "Anitra's Dance" (Grieg).  
 9.30 p.m.: A Recital by Aileen Newlyn (soprano)—  
 "The Living God" (O'Hara)  
 "My Prayer" (Squire).  
 9.40 p.m.: Bijou String Trio—"Prelude in C Minor" (Pachulski).  
 "Habanera" (Chopin).  
 9.45 p.m.: P. H. Nicholls—  
 Talk on Dickens' immortal character, "Scrooge."  
 9.58 p.m.: Meteorological information.  
 9.59 p.m.: Our good-night thought.  
 10.0 p.m.: God Save the King.

## 6WF, PERTH

Sunday, December 23

- 10.25 a.m.: Tune in. 10.30 a.m.: Special half-hour for the enthusiastic listener. 11.0 a.m.: Morning service relayed from Lake Street Church of Christ, Perth. 12.15 p.m.: Close down.  
 2.55 p.m.: Tune in. 3.0 p.m.: "The Messiah," relayed from Queen's Hall. 4.30 p.m.: Close down.  
 7 p.m.: Tune in. The evening transmission is broadcast on 104.5 metres as well as the usual wavelength. 7.5 p.m.: Children's bedtime stories. 7.30 p.m.: Evening service relayed from Wesley Church, Perth. Preacher, Rev. John W. Grove, M.A., LL.B. 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 23

### MORNING SESSION.

Announcer: J. M. Counsel.

- 11.0 a.m.: Transmission from St. David's Cathedral, Murray Street, Hobart. Mattins. Psalm 94. Hymns Nos. 202, 193, 20. Preacher, Dean Rivers. 12.30 p.m.: Close down.

### AFTERNOON SESSION.

Announcer: J. M. Counsel.

- 3.30 p.m.: G.P.O. clock 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.

- Children's hour. Tasmanian fairy tales. by Bertha Southey Brammell. 6.15 p.m.: Chorus singing. (Conductor, Trevor M. Morris, of Children's Special Service Mission.) 6.45: Bertha Southey Brammell will read to the children poems: "A Cup of Tea," "The Old Wife," "The Prayer." 6.55 p.m.: Mello Columbia broadcasts.



## EVENING SESSION.

Announcer: J. M. Counsel.

7.0 p.m.: Transmission from the Melville Street Methodist Church, Hobart. Hymn No. 124, "Christmas Awake," Prayer, Hymn No. 130, "Cradled in a Manger." Lesson, Luke, Chap. 11. "Anthem." Announcements. Christmas Carols. Hymn No. 138, "Thou Didst Leave Thy Throne." Sermon. Hymn No. 133, "Let Earth and Heaven Agree." Benediction. 8.25: Transmission from St. David's Park, 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. 10.50 p.m.: Our Tasmanian Good-night thought. Close down. "God Save the King."

## Monday, December 24

New South Wales Broadcasting Company, Limited

## 2FC SERVICE

## EARLY MORNING SESSION.

Announcer: Laurence Halbert.

7 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 a.m.: "Big Ben;" close down.

## MORNING SESSION.

Announcer: Laurence Halbert.

10 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.  
11.5 a.m.: Close down.

## MID-DAY SESSION.

Announcer: Laurence Halbert.

12 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.  
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.  
1.28 p.m.: Popular Studio Music.  
2.0 p.m.: "Big Ben;" close down.

## AFTERNOON SESSION.

Announcer: Laurence Halbert.

2.30 p.m.: Programme announcements.  
2.32 p.m.: A recital of selected records of world-famous artists.  
2.45 p.m.: Miss B. Macaulay will continue her series of talks—"Your Son."  
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—Muriel Watt, contralto.  
3.46 p.m.: Cricket scores.  
A Reading.  
4.0 p.m.: "Big Ben."  
Dorothy Toppin, soprano—  
(a) "The Jewel Song" (Gounod).  
(b) "The Lilac Tree" (Gartlan).  
4.7 p.m.: Ewart Chapple, pianoforte solos.  
4.17 p.m.: Dorothy Toppin, soprano—  
(a) "Carissima" (Penn).  
(b) "Damon" (Stange).  
4.24 p.m.: From the Wentworth—The Went-

worth Cafe Dance Orchestra, under the direction of Jimmy Elkins.  
4.34 p.m.: From the studio.  
Ewart Chapple, pianoforte solos.  
4.41 p.m.: Popular music.  
4.45 p.m.: Stock Exchange, third call.  
4.47 p.m.: Popular 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 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 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.  
7.0 p.m.: "Big Ben," late news service.  
7.10 p.m.: The 2FC Dinner Quartette, conducted by Mr. Horace Keats.  
(a) "La Belle Pierrette" (Foulds).  
(b) "Autumn Manoeuvres" (Kalman).  
(c) "The Blue Mazurka" (Lehar).  
(d) "Andante from the Bohemian Suite" (Ord Hume).

## EVENING SESSION.

Announcer: A. S. Cochrane.

Accompanist: Ewart Chapple.

7.40 p.m.: Programme announcements.  
7.45 p.m.: Pianoforte reproduction.  
7.53 p.m.: Popular music.  
8.0 p.m.: "Big Ben."  
From St. Andrew's Cathedral—  
A programme of Christmas Carols rendered by the Cathedral Choir.  
8.30 p.m.: From the Studio—  
"Round the Camp Fire."  
An atmospheric programme by Upton Brown.  
Half an hour with the Australian and New Zealand writers and poets, grave and gay—mostly gay.  
Camp Boss and Narrator, Mr. V. Upton Brown.  
(a) "Australia Will Be There" (Francis).  
(b) "Mulga Bill's Bicycle" (A. B. Pater-son).  
(c) "Santa Claus in Camp" (A. B. Pater-son).  
(d) Camp Song, "Oft in the Silly Night" James Donnelly, tenor.  
(e) "Not Understood" (Thomas Bracken), by request.  
(f) "How M'Dougal Topped the Score" (Thomas E. Spencer).  
(g) "Cape Capers," a City Adventure (Sammy Sundown).  
(h) "The Amateur Rider" (A. B. Pater-son), by request.  
(i) "Homestead Chorus," "Auld Lang Syne."  
9.0 p.m.: "Big Ben," weather report and forecast.  
9.2 p.m.: The Light Music Four.  
(a) "Les Huguenots" (Meyerbeer).  
(b) "Tarantella" (Bohm).  
9.17 p.m.: Mabel Batchelor, soprano—  
(a) "Waiting" (Millard).  
(b) "Song of a Flute" (Galloway).  
9.24 p.m.: Harry Thomas, elocutionist—  
Scene from "A Christmas Carol," "Ebenezer Scrooge" (Charles Dickens).  
9.29 p.m.: James Donnelly, tenor.  
9.43 p.m.: The Light Music Four.  
"Floradora" (Stewart).  
9.53 p.m.: Mabel Batchelor, soprano—  
(a) "Auld Scotch Songs" (Auld Scotch).  
(b) "Musetta Waltz Song" (Puccini).  
10.0 p.m.: "Big Ben."  
Harry Thomas, elocutionist.  
(a) "A Little Christmas Basket (Dunbar).  
(b) "Santa Claus" (Anon.).  
10.12 p.m.: James Donnelly, tenor.  
10.16 p.m.: The Light Music Four—  
"Scenes Alsatiennes" (Massenet).  
10.27 p.m.: To-morrow's programme.  
10.30 p.m.: National Anthem; close down.

## 2BL SERVICE

## Monday, December 24

## 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. and chimes.  
News from the "Daily Telegraph Pic-torial."  
8.25: 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. and chimes.  
Studio music.  
9 a.m.: G.P.O. clock and chimes.  
Studio music.  
9.30: Half an hour with silent friends.  
10 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 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.  
12.48 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.  
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. and chimes.  
3.47 p.m.: Romano's Dance Orchestra, con-ducted by Bennie Abrahams.  
4.0 p.m.: G.P.O. clock and chimes. From the studio, Basil Kirke—"Wandering thro' Coral Isles and Tropic Seas."  
4.14 p.m.: Mrs. E. Judd, mezzo-soprano.  
4.20 p.m.: Romano's Dance Orchestra, con-ducted by Bennie Abrahams.  
4.30 p.m.: From the studio—  
Conrad Charlton, baritone.  
4.37 p.m.: Jack Clifton, in "Fragments of Melody."  
4.44 p.m.: "Sun" news service.  
4.50 p.m.: Romano's Dance Orchestra, con-ducted by Bennie Abrahams.  
5.0 p.m.: G.P.O. clock and chimes. From the studio, our serial story.  
5.10 p.m.: Conrad Charlton, baritone.  
5.17 p.m.: Jack Clifton in "Fragments of Melody."  
5.24 p.m.: "Sun" news service.  
5.30 p.m.: Pianoforte reproduction.  
5.37 p.m.: Features of the evening's pro-gramme.

## EARLY EVENING SESSION.

5.40 p.m.: Children's session.  
Stories told from in the surf.  
Santa Claus visits Manly and sends Christ-mas greetings to the children in Aus-tralasia.  
Fun and frolic in the surf.  
Story, song, and melody by Uncle Peter, Aunt Willa, Cousin Marjorie, and Uncle Bass.  
7.0 p.m.: From the studio. Studio music.  
7.10 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").  
Daily produce report ("Sun").  
7.25 p.m.: Mr. Pim and Miss Pam in ad-vertising talks and nonsense.  
7.55 p.m.: Programme and other announce-ments.

## EVENING SESSION.

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

8 p.m.: G.P.O. clock and chimes.  
From the Band Rotunda, Manly Beach—  
The Manly Municipal Military Band, con-ductor, Mr. James Philoung.  
9.30 p.m.: From the studio, weather report.  
9.35 p.m.: From King's Cross Theatre—  
The King's Cross Theatre Orchestra, un-der the baton of E. J. Roberts; at the Wurlitzer organ, Joseph Wayne.  
10 p.m.: From Manly Beach—  
Charles Lawrence Rebus, broadcast from the surf on Manly beach.

## ARTISTS:

Dorrie Ward, soprano.  
Dorothy Dewar, in popular numbers.  
Amy Ostinga, contralto.  
W. E. Lewis, baritone.  
10.37 p.m.: Talk by the Mayor of Manly.  
10.45 p.m.: Dorrie Ward, soprano.  
10.52 p.m.: W. E. Lewis, baritone.  
10.59 p.m.: Novelty nonsense at the piano by Charles Lawrence.  
11.6 p.m.: Talk, "History of Surf Bathing," by Basil Kirke.  
11.15 p.m.: Amy Ostinga, contralto.  
11.22 p.m.: Community singing.  
11.29 p.m.: Description of beach sports.  
11.36 p.m.: Carols.



11.45 p.m.: From the studio.  
Late news and announcements.  
Christmas greetings to the people of Australia.  
12 midnight: National Anthem. Close down.

## 2GB, SYDNEY

Monday, December 24

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 Co., Ltd. 7.15 p.m.: Music. 8.0 p.m.: Mayo Hunter and Gladys. 8.15 p.m.: Christmas carols, by the Clement Hosking Quartette. 8.30 p.m.: Items by the Newtown Band, conductor Mr. C. Bignall. 9.0 p.m.: Weather report and address. 9.15 p.m.: Mayo Hunter and Gladys. 9.30 p.m.: Songs by Miss Elsie Brown. 9.40 p.m.: Items by the Newtown Band. 10.10 p.m.: Christmas carols, by the Clement Hosking Quartette. 10.20 p.m.: Orchestral numbers. 10.30 p.m.: Close down.

## 2UW, SYDNEY

Monday, December 24

### MIDDAY SESSION.

12.30 p.m.: To-day's anniversary. 12.32 p.m.: Music. 1 p.m.: G.P.O. clock and chimes; music. 2 p.m.: Talks to women. 2.15 p.m.: "Cheerio Talk." 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 p.m.: G.P.O. clock and chimes; music. 7.10: News items. 7.30 p.m.: Musical interlude. 7.35 p.m.: Psychology talk. 8 p.m.: G.P.O. clock and chimes; music. 9 p.m.: G.P.O. clock and chimes; Comments on Foreign Affairs, by Mr. J. M. Prentice. 9.10 p.m.: Music and request numbers. 10 p.m.: Close down.

## 3LO, MELBOURNE

Monday, December 24

### CHRISTMAS EVE.

#### EARLY MORNING SESSION.

7.15 a.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.

Announcer: F. Hatherley.

Accompanist: Agnes Fortune.

11.0 a.m.: The Station Orchestra. Suite, "The Rake" (Quilter). 11.10 a.m.: Clifford Creighton (baritone). "I Will Not Grieve" (Schumann). "Come to the Fair" (E. Martin). 11.17 a.m.: The Station Orchestra. "Three Dances" (Cyril Scott). 11.24 a.m.: Roy Ryan (entertainer) will sing and whistle. "Blue Heaven," "Bye-bye, Blackbird." 11.30 a.m.: The Station Orchestra. Fantasia. "Aux Mozart Reich" (Mozart). 11.40 a.m.: Clifford Creighton (baritone). "From Oberon in Fairyland" (Slater). "Blow, Winds, Blow" (Ronway). 11.47 a.m.: The Station Orchestra. Suite, "Summer" (Chaminade). "Marche Mignon" (Foldini).

#### 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 transmitted from the King's Theatre, Russell Street, Melbourne. Conductor, G. J. Mackay. Herbert Browne (tenor), by permission of J. C. Williamson, Ltd. "A Song Down Every Roadway." "Maire, My

Girl." Keith Desmond (elocutionist). "How We Saved the Barge." "A Dog, and a Pipe, and a Stick." 1.45 p.m.: Stock Exchange information. Meteorological information. Weather forecast for Victoria, New South Wales, Tasmania, and South Australia. Ocean forecasts. River reports. 1.55: Close down.

#### AFTERNOON SESSION.

Announcer: Frank Hatherley.

2.0 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C., by Rod M'Gregor. 4.0 p.m.: Sonora recital. 4.15 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C. 5.0 p.m.: "Herald" news service. Stock Exchange information. 5.10 p.m.: Description of Sheffield Shield match, Victoria v. New South Wales at M.C.C. 6.0 p.m.: Stumps scores. During the afternoon progress scores of the Sheffield Shield cricket match, South Australia v. Queensland, at Adelaide, will be broadcast.

#### EVENING SESSION.

Announcer: Maurice Dudley.

6.5 p.m.: Answers to letters and birthday greetings by "Billy Bunny" 6.30 p.m.: St. Mark's choristers. "Hark, the Herald Angels," "Good King Wenaslas," "O Come, All Ye Faithful." 6.40 p.m.: Captain Donald MacLean, "A Christmas Adventure." 6.50 p.m.: St. Mark's choristers. "While Shepherds Watched," "The First Nowell," "Away in a Manger."

#### NIGHT SESSION.

Announcer: C. J. O'Connor.

Accompanist: Agnes Fortune.

7.5 p.m.: Stock Exchange information. 7.15 p.m.: Special report by John M'Namara and Co.; official report of the Newmarket stock sales by the Associated Stock and Station Agents, Bourke St., Melbourne; fish market reports by J. R. Berrett, Ltd.; rabbit prices; river reports; market reports by the Victorian Producers' Co-operative Company, Limited; poultry, grain, hay, straw, jute, dairy produce, potatoes, and onions; market reports of fruit by the Victorian Fruittraders' Association; retail prices; wholesale prices of fruit by the Wholesale Fruit Merchants' Association; citrus fruits. 7.30 p.m.: News session. Stumps scores, Sheffield Shield cricket matches, Victoria v. New South Wales, at M.C.C., and South Australia v. Queensland at Adelaide.

7.43 p.m.: Birthday greetings. 7.45 p.m.: Out of the Past. 7.46 p.m.: Charles Nuttall, "Oh! Christmas." 8.0 p.m.: A maker of history. 8.1 p.m.: Programme announcements. 8.2 p.m.: The Station Orchestra, "Belle of Brittany" (Talbot). 8.10 p.m.: Adelaide Meuleman, soprano, "Pierrot" (de C. Rybner), "The Owl" (Wells). 8.17 p.m.: The Station Orchestra, suite, "L'Arlésienne," parts I. and II. (Bizet). 8.27 p.m.: J. Alexander Browne, baritone, "Pass Everyman" (Sanderson), "My Message" (D'Hardelot). 8.34 p.m.: Viva Holgate Clarke, piano, "Waltz in A Flat, Op. 42" (Chopin). "Etude in F Minor" (Chopin), "Rhapsody in G Minor" (Brahms). 8.49 p.m.: Gertrude Hutton, contralto, "Nay, Though my Heart Should Break" (Tschai-kowsky), "The Ring" (Chaminade). 8.56 p.m.: The Station Orchestra, "Two Waltzes" (Dvorak). 9.0 p.m.: One-act play, "Scrooge," a Christmas Carol, by Charles Dickens. Adapted for broadcasting by Maurice Dudley. Characters: Ebenezer Scrooge, Maurice Dudley; Bob Cratchitt (his clerk), Edwin J. Lewis; Fred Wayland (his nephew), Alan Bell; Mr. Worthington; Mr. Middlemark, H. M. Hill; Ghost of Jacob Marley, J. Howlett Ross; the Cratchitt Children, Martha, Mate Cutler; Bells, Myra Matheson; Peter, Syd. Dale; Tiny Tim; the Boy Scrooge; Fanny (his sister), Ailsa Cavan; Scrooge's sweetheart, Mrs. Maurice Dudley; Mrs. Cratchitt, Mrs. Maurice Dudley. Incidental music; play produced by Maurice Dudley. 9.37 p.m.: The Station Orchestra, "Chant de L'Alouette" (Tschai-kowsky), "Polish Dance" (Scharwenka). 9.44 p.m.: J. Alexander Browne, baritone, "The Windmill" (Nelson), "Friend" (Davis). 9.51 p.m.: Tasma Tiernan, cello, "Romance sans Paroles" (Davidoff). 9.55 p.m.: Adelaide Meuleman, "Sing, Sweet Bird" (Ganz), "My Curly Headed Babby" (Chetsan). 10.2 p.m.: The Station Orchestra, "Andante Cantabile" (Beethoven).

10.7 p.m.: Lillian Colenso, soubrette, "Oh, Cecil," "Bride 13."

#### NEWS SESSION.

10.14 p.m.: "Argus" news session. Eric Welch's selections for the V.A.T.C. races at Caulfield on Boxing Day; meteorological information; announcements.

#### IN LIGHTER VEIN.

10.24 p.m.: Gertrude Hutton, contralto, "I Came to My Garden" (Kent), selected. 10.31 p.m.: The Station Orchestra, "Dances from Tom Jones" (German). 10.36 p.m.: Lillian Colenso, soubrette, "Bunch of Buttercups," "I Never saw Anything like it." 10.43 p.m.: Dave Morrison, entertainer, "The Fairy Bells." 10.48 p.m.: Keith Desmond, elocutionist, "Big Billen and he Chinese Maid" (Hayes), "The Plumber." 10.55 p.m.: The Station Orchestra, overture, "Romantic" (Keler Bela). 11.0 p.m.: Our great thought. 11.1 p.m.: The Radi-o-Aces, "Sally Rose" (Friend), "Sincerely I do" (Davis), "The Prune Song" (Crumit), "Sleepy Baby" (Kaha), "Get Out and Get Under the Moon" (Tobias), "That's My Weakness Now" (Stept), "Tiger Rag" (Moore), "Dream House" (Foxe), "Jeannine" (Gilbert), "Brainstorm" (Sanders), "Day Dreams" (Hallam), "Without You, Sweet-heart" (Henderson). 11.30 p.m.: Christmas greetings from leading citizens. 11.35 p.m.: Johnston's Studio Boys, "Christmas Carols." 12.0 p.m.: God Save the King.

## 3AR, MELBOURNE

Monday, December 24

#### MORNING NEWS SESSION.

10 a.m.: G.P.O. clock says "Ten." 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. 10.59 a.m.: Weather forecast.

#### MORNING MUSICAL SESSION.

11 a.m.: The Radi-o-Aces. "Chiquita" (Wayne). "Dream House" (Fox). "Jeannine" (Gilbert). "Got a Big Date with a Little Girl" (Tobias). "Sunshine" (Berlin). "A Stolen Melody" (Fisher). 11.20 a.m.: British official wireless news; announcements. 11.30 a.m.: Description of cricket—Victoria v. New South Wales, at M.C.C., by Mel Morris. 1.15 p.m.: Close down.

#### EVENING SESSION.

6 p.m.: A selection of symphony and song suitable to the season. 7 p.m.: "Herald" news session. 7.15 p.m.: Further selections. 7.50 p.m.: Results of cricket match—Victoria v. New South Wales, at Melbourne; South Australia v. Queensland, at Adelaide.

#### NIGHT SESSION.

Announcer: John O'Connor.

Accompanist: Reg. Brown.

8 p.m.: E. C. H. Taylor. "School Life and School Sport." 8.15 p.m.: Under the auspices of the Historical Society of Victoria. A. S. Kenyon will speak on "The Importance of Australian History." 8.30 p.m.: Alfred Firman, "Books of Yesterday, To-day, and To-morrow." 8.40 p.m.: Radi-o-Aces. "Chiquita" (Wayne). "Last Night I Dreamed You Kissed Me" (Kahn). "That's My Mammy" (Donaldson). 8.50 p.m.: Syd. Burchall, baritone. "Jean" (Burleigh). 8.53 p.m.: Radi-o-Aces. "Who Knows" (Dixon). "Ah, Sweet Mystery of Life" (Herbert). "Evening Star." 9.3 p.m.: Senia Chostiakoff, tenor. "Diane" (Rappee). 9.6 p.m.: The Radi-o-Aces. "Down Home—Rag" (Sweetman). "We'll have a new home in the morning" (Buck).



"In a Bamboo Garden" (Donaldson).  
 9.16 p.m.: Roy Ryan, entertainer.  
 "Ah-ah."  
 9.19 p.m.: The Radi-o-Aces.  
 "Anything You Say" (Donaldson).  
 "My Melancholy Baby" (Norton).  
 "Constantinople" (Carlton).  
 9.29 p.m.: Syd. Burchall, baritone.  
 "Rags" (Ambrose).  
 9.32 p.m.: The Radi-o-Aces.  
 "Don't Cry, Baby" (Kahn).  
 "Love Affairs" (Robinson).  
 "Piano Solo—Jazz Master" (Mayerel).  
 9.42 p.m.: Senia Chostiakoff, tenor.  
 "Love is Just a Little Bit of Heaven" (Donaldson).  
 9.45 p.m.: The Radi-o-Aces.  
 "In My Bouquet of Memories" (Lewis).  
 "Sentimental Baby" (Davis).  
 "Rose of Monterey" (Guy).  
 9.55 p.m.: Roy Ryan, entertainer.  
 "Winging Home."  
 9.58 p.m.: The Radi-o-Aces.  
 "Red Head" (Ermbey).  
 "Jeannine" (Gilbert).  
 "Dream House" (Fox).  
 10.8 p.m.: Announcements.  
 10.11 p.m.: The Radi-o-Aces.  
 "I'm Sorry, Sally" (Kahn).  
 "When You Know Me" (Baden).  
 "Tell Me To-night" (Little).  
 10.21 p.m.: News session.  
 "Age" news service, exclusive to S.A.R.  
 Acceptances for Wednesday's races at Caulfield.  
 10.29 p.m.: Our Australian Good-night Quotation.  
 10.30 p.m.: God Save the King.

## 4QG, BRISBANE

Monday, December 24

### EARLY MORNING SESSION.

Announcer: J. Tyson.

7.43 a.m.: From the Observatory—  
 Time signals.  
 7.45 a.m.: News service supplied by courtesy  
 of "The Daily Mail."  
 8.0 a.m.: Some electric records.  
 8.15 a.m.: News service supplied by courtesy  
 of "The Courier."  
 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.: Talk arranged by the National  
 Council of Women of Queensland.  
 11.30 a.m.: Music.  
 11.35 a.m.: More social news.  
 11.45 a.m.: Music.  
 12.0 (noon): Close down.

### MID-DAY SESSION.

Announcer: R. Wight.

1.0 p.m.: Market reports and weather in-  
 formation.  
 1.20 p.m.: From the Paris Cafe—  
 Lunch-hour music.  
 2.0 p.m.: Close down.

### AFTERNOON SESSION.

3.0 p.m.: From the Tivoli Theatre—  
 Orchestra music by the Tivoli Operatio  
 Orchestra, under the baton of Mr. C.  
 Groves.  
 3.30 p.m.: From the Studio—  
 Mail train running times.  
 A programme of elecercially reproduced  
 records.  
 4.0 p.m.: From the Tivoli Theatre—  
 Orchestral music.  
 4.15 p.m.: From the Studio—  
 Afternoon news.  
 4.30 p.m.: Close down.

### EARLY EVENING SESSION.

6.0 p.m.: From the Studio—  
 A Special Children's Christmas Enter-  
 tainment arranged for broadcasting:  
 Hymns: 59, "O, Come All Ye Faithful;"  
 62, "While Shepherds Watched;" 329,  
 "Once in Royal David's City." Lesson:  
 St. Luke, Chapter 2, Verses 1 to 20.  
 Children's Catechising by Canon Garland.  
 Hymn Book: Ancient and Modern.  
 7.30 p.m.: From the Studio—  
 A short commercial session, market news,  
 weather news, holiday racing reviewed.

### NIGHT SESSION.

Announcers: H. Humphreys and A. V. James  
 8.0 p.m.: From the Studio—  
 The Studio Orchestra (conductor, A. R.  
 Featherstone).  
 Fantasia, "A Dream of Christmas" (Ke-  
 teby).

8.7 p.m.: Jean M'Dougall, soprano—  
 "There is a Green Hill" (Gounod).  
 8.11 p.m.: The Aloha Novelty Trio in se-  
 lected numbers.  
 8.16 p.m.: The Royalty Duo—  
 Music and mirth, including  
 Ken West, tenor, "That What I Call a  
 Pal." "Oh, How She Lied."  
 Blanche Burns, contralto, selected item.  
 8.30 p.m.: The Studio Orchestra—  
 "Gloria" from "12th Mass" (Mozart).  
 8.38 p.m.: Muriel M'Hugh, soprano—  
 "In a Great Unknown" (D'Hardelot).  
 8.42 p.m.: The Aloha Novelty Trio in se-  
 lected numbers.  
 8.45 p.m.: Kenyon, the entertainer, five  
 minutes' fun.  
 8.50 p.m.: C. B. Astley, baritone—  
 "Trade Winds" (Koel)..  
 8.55 p.m.: The state of the roads for holiday  
 motoring; information officially supplied  
 by the Royal Automobile Club of Queens-  
 land.  
 9.0 p.m.: Metropolitan weather forecast.  
 9.1 p.m.: Mrs. C. Williams, violiniste—  
 "Cacatina" (Raff), accompanied by Studio  
 Orchestra.  
 9.6 p.m.: A. K. Chapman—  
 "The Star of Bethlehem."  
 9.13 p.m.: The Aloha Trio in selected num-  
 bers.  
 9.17 p.m.: Jean Naylor, contralto—  
 "The Lord is my Light" (Allitsen).  
 9.21 p.m.: The Studio Orchestra—  
 Valse, "Sweet Old Songs" (arr. Tobani).  
 "Savoy Christmas Medley" (arr. Somers).

### A CHRISTMAS EVE COMEDY-DRAMA.

#### "THE GHOST COMPANY"

(By W. S. Mew).

#### CAST:—

Jacob Prendergast .... Ernest Barry  
 Professor Santez ..... W. S. Mew  
 Mr. S. Andman ..... J. Tyson  
 Percy ..... J. Tyson  
 Parker, the butler .... A. Rees  
 Mrs. Prendergast ..... Constance Archdall  
 Shades of the Departed Members of the  
 Company.

9.30 p.m.: A Christmas Eve Comedy-drama—  
 "The Ghost Company." Now put out your  
 lights and listen.  
 The Federal Band—The Orpheans.  
 10.30 a.m.: The Federal Band (conductor,  
 W. H. Davis)—  
 March, "Boulder City" (Hume).  
 10.34 p.m.: The Orpheans (conductor, Tom.  
 L. Muller)—  
 Octette, "Adeste Fideles" (Hammerel).  
 10.40 p.m.: C. Rice, tenor—  
 "The Holy City" (Stephen Adams).  
 10.45 p.m.: The Federal Band.  
 Serenade, "In this Hour of Softened  
 Splendour" (Pinsuti).  
 10.51 p.m.: The Orpheans—  
 "Hark, the Herald Angels Sing."  
 10.56 p.m.: Helen Post-Mason, soubrette—  
 "The Man I Love."  
 10.59 p.m.: The Federal Band.  
 Selection, "Southern Melodies."  
 11.5 p.m.: J. P. Cornwell, bass—  
 "The Star of Bethlehem" (Stephen Adams)  
 11.10 p.m.: Tom Muller, elocutionist—  
 "Christmas Bells" (Adams).  
 11.16 p.m.: The Orpheans—  
 Octette, "We Have Seen His Star in the  
 East" (Simper).  
 11.21 p.m.: Helen Post-Mason, soubrette—  
 "Sunshine."  
 11.25 p.m.: W. H. Davis.  
 Cornet solo, "My Tumble-down Cottage of  
 Dreams" (Nicholls), accompanied by the  
 Federal Band..  
 11.30 p.m.: F. Crane, C. Rice, G. William-  
 son—  
 Vocal trio, "Ye Shepherds Tell Me" (Maz-  
 zinghi)..  
 11.36 p.m.: Tom Muller, elocutionist—  
 "O, Christmas at Sea" (Robert Louis  
 Stevenson)..  
 11.41 p.m.: The Orpheans—  
 Octette, "Silent Night."  
 11.46 p.m.: The Federal Band—  
 "Adeste Fideles."  
 "Christians, Awake."  
 "While Shepherds Watched."  
 "Auld Lang Syne."

12.0 (midnight): A Happy Christmas to all  
 listeners from 4QG.  
 St. Stephen's Roman Catholic Cathedral,  
 Midnight Mass.  
 12.0 (midnight): From St. Stephen's Cathed-  
 ral—The solemn Midnight Mass will be  
 relayed.  
 1.0 a.m.: Close down.

## 5CL, ADELAIDE

Monday, December 24

### MORNING SESSION.

Announcer: J. L. Norris.

11.0 a.m.: G.P.O. chimes. 11.1 a.m. Musi-  
 cal interlude, H.M.V. recordings. Royal  
 Opera Orchestra, Covent Garden (guest  
 conductor, George W. Byng), "Faust"  
 Ballet Music (Gounod), first and second  
 movements, third and fourth movements.  
 11.15 a.m.: "Economist," kitchen craft  
 and menu talk. 11.30 a.m.: "Faust" Bal-  
 let music (continued), H.M.V. recordings.  
 Fifth and sixth movements, seventh move-  
 ment. 12.0 noon: G.P.O. chimes. 12.1  
 p.m.: From Adelaide Oval, description of  
 the inter-State cricket, Queensland v.  
 South Australia, by 5CL's Sporting Com-  
 missioner. 12.15 p.m.: Studio. The "Ad-  
 vertiser" general news service. 12.25  
 p.m.: British Official Wireless news.  
 12.40 p.m.: Sonora, Royal Opera Orches-  
 tra, Covent Garden (guest conductor, Dr.  
 Malcolm Sargent), H.M.V. recordings;  
 "Sylvia" Ballet (Delibes), (a) "Prelude,"  
 (b) "The Huntress." 12.50 p.m.: S.A.  
 railway information. 12.51 p.m.: S. C.  
 Ward and Co.'s Stock Exchange informa-  
 tion. 12.57 p.m.: Meteorological informa-  
 tion. 1.0 p.m.: G.P.O. chimes. 1.1 p.m.:  
 Organ recital from the Adelaide Town  
 Hall by W. R. Knox (city organist).  
 "Marche Modern in E Flat" (Lemare).  
 "Humoresque" (Dvorak). "Paraphrase"  
 from "Tannhauser" (Wagner). 1.15 p.m.:  
 From the Adelaide Oval: Description of  
 the inter-State cricket, Queensland v.  
 South Australia, by 5CL's Sporting Com-  
 missioner. 1.30 p.m.: From Adelaide  
 Town Hall, organ recital by W. R. Knox  
 (City Organist). 1.55 p.m.: Inter-State  
 cricket scores. 1.57 p.m.: Meteorological  
 information. 2.0 p.m.: G.P.O. chimes.  
 Close down.

### AFTERNOON SESSION.

Announcer: J. L. Norris.

Accompaniste: Jean Finlay.

3.0 p.m.: G.P.O. chimes. 3.1 p.m.: From  
 the Adelaide Oval, description of the in-  
 ter-State cricket, Queensland v. South  
 Australia, by 5CL's Special Commissioner.  
 3.8 p.m.: From the Studio. Musical vari-  
 ety. Mona Nugent, pianiste, "Polonaise  
 in A Major" (Chopin), "Study." 3.14 p.m.:  
 An introduction to South Australian lis-  
 teners of Gertrude Gray (mezzo), late of  
 J. C. Williamson's Grand Opera Company,  
 "The Arrow and the Song" (Balfé), "Big  
 Lady Moon" (Taylor). 3.21 p.m.: Alt-  
 house and M'Callum, instrumentalists,  
 flute and piano specialties. 3.28 p.m.:  
 From the Adelaide Oval, description of the  
 inter-State cricket, Queensland v. South  
 Australia, by 5CL's Special Commissioner.  
 3.40 p.m.: From the Studio. Variety con-  
 cert. William Davey, xylophonist.  
 "Flapperette" (Greer), "After My  
 Laughter" (Turk). 3.47 p.m.: Another  
 introduction to South Australian listeners  
 of Diana Belmont (contralto), late of J.  
 C. Williamson's Grand Opera Company,  
 "Tired Hands" (Sanderson), "The Curtain  
 Falls" (d'Hardelot). 3.53 p.m.: Mona Nu-  
 gent, pianist, "Scherzo in B Minor" (Cho-  
 pin), "Sonatina" (Ravel). 3.59 p.m.: Sydney  
 Hollister, humorist, in selected comedy.  
 4.9 p.m.: From the Adelaide Oval, de-  
 scription of the inter-State cricket,  
 Queensland v. South Australia, by 5CL's  
 Special Commissioner. 4.18 p.m.: From  
 the studio. Musical interlude. William  
 Davey, xylophonist, "Breeze" (Hanley).  
 "Chloe" (Moret). 4.24 p.m.: Gertrude  
 Gray, mezzo, "Pale Moon" (Logan), "I  
 Love You Truly" (Bond). 4.30 p.m.: Alt-  
 house and M'Callum, instrumentalists, in  
 flute and piano selections. 4.36 p.m.:  
 Diana Belmont, contralto, "A Summer  
 Night" (Thomas), "Vale" (Russell). 4.42  
 p.m.: From the Adelaide Oval, descrip-  
 tion of the inter-State cricket, Queens-  
 land v. South Australia, by 5CL's Special  
 Commissioner. 5.0 p.m.: G.P.O. chimes.  
 Close down.

### EVENING SESSION.

Announcer: Athol Lykke.

Accompaniste: Jean Finlay.

5.50 p.m.: From Adelaide Oval: Description  
 of last few minutes of the day's play,  
 Queensland v. South Australia. 6.9 p.m.:  
 G.P.O. Chimes. 6.1 p.m.: Children's  
 Happy moments, Birthday greetings, cor-  
 respondence, songs, and stories, by "Miss  
 Wireless." 6.15 p.m.: A Trip to Toyland,  
 with Father Christmas. 6.35 p.m.: A musi-  
 cal interlude. Dinner music on the station  
 Sonora. Royal Opera Orchestra, Covent  
 Garden. (Guest Conductor: Dr. Malcolm  
 Sargent). "Symphony in G Minor" (Mo-  
 zart). First Movement—Allegro molto.



Parts 1 and 2. Second Movement—Andante, Parts 1 and 2. Third Movement—Minuet, Allegretto. Fourth Movement—Finale, Allegro assai. 6.55 p.m.: Interstate cricket scores, New South Wales v. Victoria. 7.0 p.m.: G.P.O. chimes. 7.1 p.m.: A Sonora recital. Christmas Hymns and Carols, Parts 1 and 2, introducing "Christians Awake," "Oh, Little Town of Bethlehem," "God Rest Ye, Merry Gentlemen," "The First Noel," "Silent Night," "Joy to the World," "The Angels and the Shepherds," "Calm on the Listening Ear of Night," "We Three Kings of the Orient are," "A Joyful Christmas Song." 7.8 p.m.: 5CL's sporting service by "Silvus," including a review of the first day of the Port Adelaide Cup meeting and Caulfield racing. 7.20 p.m.: Sonora recital continued, "Ring Out the Bells for Christmas" (Hodges), "The Miner's Dream of Home" (Godwin), "A Christmas Fantasy" (Greir). 7.30 p.m.: The 5CL's "Twinkler" Boys' Club, entertainment by the "Twinkler."

## NIGHT SESSION.

Announcer: Athol Lykke.

Accompaniste: Jean Finlay.

8.0 p.m.: G.P.O. chimes. Orchestral concert, interspersed with vocal and comedy selections.  
8.1 p.m.: Station Orchestra. "Hungarian Lustspiel" (Keler-Bela).  
8.8 p.m.: Althouse and M'Callum, vocalists, in specialities from their repertoire.  
8.14 p.m.: Station Orchestra. Selection, "The Vagabond King" (Friml).  
8.21 p.m.: An introduction to South Australian listeners of Gertrude Gray (mezzo). Negro Spirituals. "Swing Low, Sweet Chariot" (Burleigh), "De Gospel Train" (Burleigh).  
8.27 p.m.: Mona Nugent, pianiste, "Ballade in G Minor" (Brahms).  
8.33 p.m.: Sydney Hollister, humorist, in droll humor.  
8.43 p.m.: Station Orchestra. "Hejre Kati" Hubay, "Jeanine" (Shilkret).  
8.53 p.m.: Another initial introduction to South Australian listeners of Diana Belmont (contralto), late of the J. C. Williamson Grand Opera Company. "Down in the Quiet Hills" (Corne), "That's All."  
9.0 p.m.: G.P.O. chimes.  
9.1 p.m.: Meteorological information.  
9.2 p.m.: Overseas grain report.  
9.3 p.m.: Station Orchestra. Selection, "Decameron Nights" (Finck).  
9.10 p.m.: Gertrude Gray, mezzo. "Now sleeps the crimson petal" (Roger Quilter), "Sylvan" (Ronald).  
9.16 p.m.: Althouse and M'Callum, instrumentalists, flute and piano specialities.  
9.22 p.m.: Sydney Hollister, humorist, in droll humor.  
9.28 p.m.: A pianoforte recital by Hans Bertram, pianist. (a) Impromptu No. 4 (Schubert), (b) Songs Without Words, No. 18 (Mendelssohn), (c) Concert Study (Bertram), (d) Nocturne No. 5 (Field), (e) Hunting Song (Mendelssohn).  
9.48 p.m.: Diana Belmont, mezzo. "Sagnia" (Sebire), "Still as the night" (Bohm).  
9.55 p.m.: Station Orchestra. Intermezzo. "Naila," (Delibes).  
10.0 p.m.: G.P.O. chimes.  
10.1 p.m.: Sydney Hollister, humorist, in droll humor.  
10.5 p.m.: Station Orchestra. Suite, "Ballet Egyptian" (Lugani).  
10.10 p.m.: Mona Nugent, selections from her repertoire.  
10.15 p.m.: "Advertiser" news service.  
10.19 p.m.: 5CL's sporting service, by "Silvus."  
10.30 p.m.: Meteorological information.  
10.31 p.m.: Station's greetings to South Australian listeners.  
10.35 p.m.: A modern dance interlude, music by the famous Radi-o-Aces.  
11.0 p.m.: Greetings from 3LO Melbourne.  
11.5 p.m.: Instrumental Finale. Johnson's Studio Boys in Christmas Carols.  
11.30 p.m.: On the Sonora, "A Christmas Ghost Story."  
11.34 p.m.: A musical interlude by the Station Orchestra.  
11.45 p.m.: Rev. G. E. Hale, "A Message."  
12.0 midnight: G.P.O. Chimes.  
12.1 a.m.: Carol. "It came upon the Midnight clear, that Glorious Song of Old," by Lina Wald.  
12.5 a.m.: God Save the King.

## 6WF, PERTH

Monday, December 24

12.30 p.m.: Tune in. 12.35 p.m.: Markets; news; and cables. 1.0 p.m.: Time signal. 1.1 pm: Weather notes, supplied by the Meteorological Bureau of West Australia;

station announcements. 1.2 p.m.: Brunswick Panatrophe hour, relayed by Messrs. Musgrove's, Limited, Concert Hall, Perth. 2.0 p.m.: Close down. 3.30 p.m.: Tune in. 3.35 p.m.: Afternoon tea concert, relayed from the Carlton Cafe, Perth. Vocal and instrumental interlude from the studio. 4.30 p.m.: Close down. 6.45 p.m.: Tune in. The evening transmission is broadcast on 104.5 metres, as well as the usual wave-length. 6.48 p.m.: Stories for the kiddies, by Uncle Henry and Duffy. 7.5 p.m.: Items by the Studio Trio. 7.30 p.m.: Stocks; markets; news. 7.45 p.m.: Talk by Lieut.-Col. Le Souef, Director of the Zoological Gardens, South Perth. 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. 8.30 p.m.: Illustrated music talk, "Some Old Carols from France and Other Countries," by Miss Hinrichs and assistant. 9.0 p.m.: Late news items, by courtesy of the "Daily News" Newspaper Co. 10.30 p.m.: Musical programme, continued. 12.0 p.m.: Midnight mass service, relayed from St. Mary's Roman Catholic Cathedral, Perth. 1 a.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

Monday, December 24

## 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: Tasmanian stations' 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.: 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. 12.33: His Master's Voice in moments merry and musical. 12.55 p.m.: "Mercury" news service. Produce sales held at railway. 1.10 p.m.: His Master's Voice in moments merry and musical. 1.30 p.m.: Close down.

## AFTERNOON SESSION.

Speaker: Aunt Edna.

Announcer: Jack Broadbent.

3.0 p.m.: G.P.O. clock chimes the hour. 3.1 p.m.: His Master's Voice in moments merry and musical. 3.4: Weather information. 3.5: His Master's Voice in moments merry and musical. 3.15: Monsieur Sonora gives an organ recital. Reginald Foort, "Ballet Egyptien" (Luigini), played on the organ of the New Gallery Cinema, London; organ, "The Swan," "Salut d'Amour"; organ, "Ave Maria," "Fugue Alla Cigue"; organ, "Piece Heroique," parts 1 and 2; Reginald Goss Custard, "Fugue ala gigue" (Bach), "Tocatta" (Widor); Guy Weitz, "Fantasia and Fugue on B.A.C.H. (Bach), parts 1 and 2; the Morman Tabernacle, Edward Kimball at the organ, "War March of the Priests (Mendelssohn), "Behold God the Lord." Reginald Foort, organ, "An Autumn Serenade" (De Wolke), "Poem" (Fibrich). 4.15 p.m.: Fashion talk. Aunt Edna will speak on "Holiday Jotting." 4.30 p.m.: Close down.

## EARLY EVENING SESSION.

Announcer: Jack Broadbent.

6.15 p.m.: His Master's Voice in moments merry and musical. 6.45 p.m.: Little Teddy Richardson will sing "Ramona," "If You See Sally." 7.0 p.m.: Answers to letters and birthday greetings by Uncle David. 7.5: His Master's Voice in moments merry and musical. 7.15: News session. "Mercury" special Tasmanian news service; railway auction produce sales held at railway; weather information; Hobart Stock Exchange quotations. Announcements.

## EVENING SESSION.

7.30 p.m.: Geo. Collis, Tasmania's champion wrestler will speak on "Physical Training." 7.45 p.m.: Roger Doherty, secre-

tary of the Southern Tasmanian Tennis Association will speak on "Tennis." 8.0 p.m.: G.P.O. clock chimes the hour. 8.1 p.m.: Fifty years ago to-day, "It must have been years ago." 8.6 p.m.: A Christmas-tide programme, by Monsieur Sonora. Guards' Band, "Christmas Memories," parts 1 and 2. Song and organ, "Good King Wenceslas," "The First Noel." Gilbert Girard, recitation, "Santa Claus Arrives," parts 1 and 2. Song and organ, "Hark the Herald Angels Sing," "While Shepherds Watch." Alfred O'Shea, tenor, "At the Mid Hour of the Night," "The Star." Mandolin band, "The Belfry." Choir, "O Day of Rest and Gladness," "O Worship the King." Hand-bells, "The Legend of the Hills," "Chiming Bells." Organ solo, by Pattman, "Jesus Shall Reign," "Dear Saviour, Ever at My Side." 9.4 p.m.: Barbara Storey will tell a ghost story. 9.20 p.m.: Maartje Offers, contralto, "Agnus Dei," "Noel." Organ solo, by Pattman, "Ave Maria," "Fugue Alla Cigue." James Lewis, tenor, "The Psalms," "Hosanna." Offertory on two carols, parts 1 and 2. Grace Hewrin, contralto, "The Messiah." 9.50 p.m.: News session; "Mercury" news service; British official wireless news; Tasmanian district weather report. 10.0 p.m.: The Royal Autocar Club of Tasmania safety message. 10.1 p.m.: Our Tasmanian good-night thought. 10.2 p.m.: God Save the King. Close down.

## Tuesday, December 25

New South Wales Broadcasting Company, Limited

## 2FC SERVICE

## 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 a.m.: From the Lyceum Hall, Pitt Street, Sydney, Christmas service, conducted by Rev. H. C. Foreman.  
12.15 p.m.: Approx. Close down.

## AFTERNOON SESSION.

Announcer: Laurence Halbert.

3.0 p.m.: "Big Ben." From Christ Church St. Laurence, organ recital arranged by Christian Hellemann, with vocal items by three of the finalists in the Radio Eisteddfod, conducted by New South Wales Broadcasting Company.  
4.30 p.m.: From the studio, a record recital of world-famous artists.  
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; music and entertainment.  
6.45 p.m.: Christmas festival music.  
7.15 p.m.: "The Significance of Christmas," by Hon. R. B. Orchard.  
7.35 p.m.: Christmas festival music.

## EVENING SESSION.

Announcer: A. S. Cochrane.

Accompanist: Ewart Chapple.

8 p.m.: "Big Ben." From the Lyceum Hall, Pitt Street, Sydney, a concert programme by the New South Wales Broadcasting Company, featuring the Metropolitan Band; Virginia Bassetti, contralto; Brunton Gibb, elocutionist; Rene Rich, violinist; and the finalists in the soprano and tenor sections of the Radio Eisteddfod, held by the New South Wales Broadcasting Company, Limited.  
10.0 p.m.: "Big Ben." Close down.

## 2BL SERVICE

Tuesday, December 25

## MORNING SESSION.

Announcer: A. C. C. Stevens.

11 a.m.: G.P.O. clock and chimes.  
"Nazareth," a children's play, produced by Madame Ada Baker, in association with Charles Lawrence.  
12 noon: Selected recital of Christmas records.  
2 p.m.: G.P.O. clock and chimes. Close down.



## AFTERNOON SESSION

Announcer: Basil Kirke

Accompanist: Kathleen Roe.

- 3 p.m.: G.P.O. clock and chimes.  
From the University of Sydney, War Memorial Carillon, recital arranged by Mr. K. M. Branch, Mr. J. G. Fletcher, and Mr. Archie Ranclaud.
1. Hymns—  
(a) "As Shepherds Watched."  
(b) "Christians, Awake."  
(c) "Hark, the Herald Angels Sing."  
(d) "O, Come, All Ye Faithful."
2. Carols—  
(a) "Good King Wenceslaus."  
(b) "The First Noel."  
(c) "Holy Night."
3. General—  
(a) "Cradle Song" (Schubert).  
(b) "A Christmas Piece" (Mendelssohn).  
(c) "Campanarum Canticum" (Nicholson).
- 3.15 p.m.: From the studio—  
A programme arranged by the Salvation Army Congress Band, with vocal solos by Rosina Maddell.
- 5 p.m.: G.P.O. clock and chimes. Close down.

## EARLY EVENING SESSION.

Announcers: Basil Kirke and J. Knight Barnett.

- 5.40 p.m.: Children's session.  
Music and entertainment.
- 6.15 p.m.: Letters and stories.
- 6.45 p.m.: Christmas music.
- 7.15 p.m.: "Christmas in Other Lands," by Captain Fred Aarons.
- 7.35 p.m.: Christmas music.

## EVENING SESSION.

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

- 8 p.m.: G.P.O. clock and chimes.  
From the Arcadia Theatre, Chatswood—  
Organ recital by Nicholas Robins.  
(a) "Triumphal March" (Lemmens).  
(b) "Star of Bethlehem" (Adams).  
(c) "Ave Maria" (Henselt).
- 8.15 p.m.: From the studio—  
Robert Gilbert, baritone.  
(a) "I Saw Three Ships" (Thiman).  
(b) "As Joseph Was a-Walking" (Thiman).
- 8.22 p.m.: Dulcie Blair, violinist.  
"Romance" (Svendson).
- 8.29 p.m.: Harry Thomas, elocutionist.  
(a) "Christmas Bells" (Mayne).  
(b) "Shut Up" (Day).
- 8.36 p.m.: Bertha Waters, soprano.  
(a) "Nobody Knows" (Burleigh).  
(b) "Mammie's Lullaby" (Fisher).
- 8.43 p.m.: From the Arcadia Theatre, Chatswood—organ recital by Nicholas Robins.  
(a) "Fantasia of Christmas Carols."  
(b) "The Rosary" (Nevin), by request.  
(c) "Chant de Noel" (Wely-Whittingham).  
(d) "Mother o' Mine" (Tours).
- 9 p.m.: G.P.O. clock and chimes.  
From the studio, weather report and forecast.
- 9.1 p.m.: Linda Hartge, contralto—  
(a) "Angels Guard Thee" (Goddard).  
(b) "Dear Love, Thou'rt Like a Blossom" (Liszt).
- 9.8 p.m.: Dulcie Blair, violinist.  
(a) "La Plus Que Lente" (Debussy).  
(b) "The Girl with the Flaxen Hair" (Debussy).
- 9.15 p.m.: Robert Gilbert, baritone.  
(a) "A Song of Thanksgiving" (Allitsen).  
(b) "An Old French Carol" (Liddle).
- 9.22 p.m.: From the Arcadia Theatre, Chatswood—organ recital by Nicholas Robins.  
(a) "Impromptu in A Flat" (Schubert).  
(b) "Nazareth" (Gounod).  
(c) "The Heavens Are Telling" (from "Creation"), (Haydn).
- 9.37 p.m.: From the studio—Bertha Waters, soprano.  
(a) "Spring Song" (Leoni).  
(b) "Batti Batti" (Mozart).
- 9.44 p.m.: Harry Thomas, elocutionist.  
Character sketch, "A Denomination Garden."
- 9.52 p.m.: Linda Hartge, contralto.  
(a) "Ave Maria" (Kahn).  
(b) "As In Old Gardens" (Risher).
- 9.59 p.m.: Resume of following day's programme.
- 10 p.m.: National Anthem. Close down.

## 2GB, SYDNEY

Tuesday, December 25

## CHRISTMAS DAY.

Special Christmas programme arranged by the Straube Piano Company.

## 2UW, SYDNEY

Tuesday, December 25

## MIDDAY SESSION.

- 12.30 p.m.: To-day's anniversary. 12.32 p.m.: Music. 1 p.m.: G.P.O. clock and chimes; music. 2 p.m.: Talks to women. 2.15 p.m.: "Cheerio Talk." 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 p.m.: G.P.O. clock and chimes; music. 7.10 p.m.: News items. 7.30 p.m.: Musical interlude. 7.35 p.m.: Literary talk. 8 p.m.: G.P.O. clock and chimes. music. 9.0: G.P.O. clock and chimes. Comments on Foreign Affairs, by Mr. J. M. Prentice. 9.10 p.m.: Music and request numbers. 10 p.m.: Close down.

## 3LO, MELBOURNE

Tuesday, December 25

## CHRISTMAS DAY.

## MORNING SESSION.

Announcer: Frank Hatherley.

- 10.30 a.m.: Bells from St. Paul's Cathedral.
- 10.45 p.m.: Morning service, from St. Paul's Cathedral. Service, matins, and Holy Communion (choral); Hymn 59 (A. and M.), "O Come All Ye Faithful"; sentence; exhortation; general confession; absolution; the Lord's Prayer; versicles and responses (festal); Psalm 85; lesson; Benedictus; the Lord's Prayer; the collect for purity; our Lord's summary of the Commandments with Kyrie; the collect for the King; the collect for Christmas Day; the Epistle and Gloria Tibi; the Gospel and Gratias; the Nicene Creed (Stanford in C); the sermon, the Archbishop, Hymn 61, "Christians Awake"; the prayer for the Church Militant. 12.15 p.m.: British official wireless news from Rugby; news from yesterday's papers. 12.25 p.m.: Close down.

## AFTERNOON SESSION.

Announcer: Frank Hatherley.

- 2.0 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C., by Rod M'Gregor. 4.0 p.m.: Sonora recital. 4.15 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C. 6.0 p.m.: Stumps scores, Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C.

## EVENING SESSION.

Announcer: C. J. O'Connor.

- 6.5 p.m.: Answers to letters and birthday greetings, by "Billy Bunny." 6.25 p.m.: Musical interlude. 6.30 p.m.: "Little Miss Kookaburra" wishes you all Christmas greetings, and will have a special Christmas Day talk and stories for you. Wasn't Santa Claus kind? 6.50 p.m.: "Billy Bunny" has also a Christmas story for you.

## NIGHT SESSION.

Announcer: C. J. O'Connor.

- 7.0 p.m.: Sonora recital.
- 7.15 p.m.: Christmas in music, song, and story, "Ye Olde Englishe Christmas Partie" an original sketch, specially written and produced for radio by J. Harcourt-Bailey for The Sundowner's Radio Revue Co. Dinner is in progress at the home of Mr. and Mrs. Mistletoe when the carol singers make their appearance, and the following numbers will be introduced during the sketch:—The Sundowners, carol, "Hark! The Herald Angels Sing"; Robert Allen, alto. J. Harcourt-Bailey will tell an original "Christmas Ghost Story." The Sundowners, quartet, "Susannah." Herbert Sanderson, baritone, "A Legend" (Tschalkowsky). The Sundowners, carol, "Good King Wenceslas." Characters: Mr. Mistletoe, Robert Gillard; Mrs. Mistletoe, Dorothy Turner Crawford; Captain Wishart, J. Harcourt-Bailey; the Sundowners, Robert Gillard, Herbert Sanderson, Tom Semple, Robert Allen.

- 7.45 p.m.: Sonora recital.
- 8.0 p.m.: 3LO, Melbourne, has pleasure in announcing that arrangements have been

made to give listeners a special Christmas programme.

10.40 p.m.: Announcements.

10.45 p.m.: Our great thought.

11.46 p.m.: God Save the King.

## 3AR, MELBOURNE

Tuesday, December 25

## CHRISTMAS DAY.

## MORNING SESSION.

Announcer: Maurice Dudley.

- 11 a.m.: Superphonic harmonics. 11.30 a.m.: Description of cricket match—Victoria v. New South Wales at Melbourne Cricket Ground. 1.15 p.m.: Superphonic harmonics. 1.45 a.m.: Close down.

## AFTERNOON SESSION.

Announcer: Maurice Dudley.

- 3 p.m.: Quartette—(a) Christmas Carols—Selections introducing "The First Noel," "Good King Wenceslas," "Good Christian Men Rejoice," "I Saw Three Ships," "God Rest Ye, Merry Gentlemen." (b) Christmas hymns. Selection introducing "O Come, All Ye Faithful," "Hark, the Herald Angels Sing," "Christians, Awake," "While Shepherds Watched." The New Sanctuary Quartette. Choir and Band.—"The Christmas Waits" (in two parts), introducing: Part 1—"Midnight Chimes," "Christians, Awake." Part 2: "Hark, the Herald Angels Sing," "Good King Wenceslas," "The Mistletoe Bough," "Auld Lang Syne." A Christmas choir and the band of the H.M. Grenadier Guards. Organ solo—Organ medley of Christmas Carols and hymns (in two parts), introducing: Part 1: "First Noel," "God Rest Ye, Merry Gentlemen," "Good King Wenceslas," "A Virgin Most Pure," "Good Christian Men, Rejoice." Part 2: "As with Gladness," "Once in Royal David's City," "While Shepherds Watched," "Christians Awake," "Hark, the Herald Angels Sing," "O Come, All Ye Faithful." By St. Mary-le-Bow Church organ, London; Clarence Raybould, organist. Band—"Christmas Time in Merrie England" (in two parts), introducing:—Part 1: "Christmas Eve," "Church Bells," "The Waits," "Mistletoe Bough," "Christmas Chimes," "Hark, the Herald Angels Sing." Part 2: "Hail, Smiling Morn," "Arrival of Coach and Visitors," "The Grace" (Doxology), "Roast Beef of Old England," "Children's Dance in the Barn," "Auld Lang Syne," "We Won't Go Home Till Morning," by the Regimental Band of H.M. Grenadier Guards. Chimes.—(a) "Lead, Kindly Light" (Dr. J. B. Dykes). (b) "Nearer, My God, to Thee" (Mason). Trinity Chimes of New York. Organ solo—Offertory on two carols. Part 1: "Noel" (Gullmant, op. 19). Part 2: "Adeste Fideles," Manchester Cathedral Organ (Dr. W. Wilson, organist). Selections from "The Messiah" (Handel). 4.30 p.m.: Close down.

## NIGHT SESSION.

Announcer: John O'Connor.

Accompanist, Reg. Brown.

- 8.0 p.m.: Brunswick City Band—"Gloria in Excelsis."  
"Selected."
- 8.10 p.m.: J. Alexander Browne (baritone).  
"Babylon" (Adams).  
"Stars and Splendor" (Thompson).
- 8.17 p.m.: Brunswick City Band—  
Cornet solo, "Star of Bethlehem" (Adams)
- 8.22 p.m.: Winifred Moverley, elocutionist—  
"A Little Christmas Story" (Ethel Turner).
- 8.30 p.m.: Brunswick City Band—  
"Christmas Time" (Ord Hume).  
One-act play, "Scrooge," a Christmas Carol, by Charles Dickens.  
Adapted for broadcasting by Maurice Dudley.  
Characters:  
Ebenezer Scrooge—Maurice Dudley.  
Bob Cratchitt (his clerk)—Edwin J. Lewis.  
Fred. Wayland (his nephew)—Alan Bell.  
Mr. Marthington.  
Mr. Middlemark—H. M. Hill.  
Ghost of Jacob Marley—J. Howlett Ross.  
The Cratchitt Children—Martha, Mate Currier; Bella, Myra Matheson; Peter, Tiny Tim, Syd. Dale.  
The Boy Scrooge.  
Fanny (his sister)—Ailsa Cavan.  
Scrooge's Sweetheart—Mrs. Maurice Dudley.
- Incidental music.  
Play produced by Maurice Dudley.





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- 9.25 p.m.: Brunswick City Band.  
"The Better Land."  
9.30 p.m.: Winifred Moverley.  
"A Christmas Story."  
9.37 p.m.: Brunswick City Band.  
"Military Church Parade."  
NEWS SESSION.  
9.52 p.m.: "Age" news; announcements.  
9.58 p.m.: Our Australian Good-night Quo-  
tation.  
10.0 p.m.: God Save the King.

## 4QG, BRISBANE

Tuesday, December 25

### MORNING SESSION.

- 11.0 a.m.: From St. John's Cathedral.  
Morning service.  
12.15 p.m.: Close down.

### NO MID-DAY TRANSMISSION.

### NO AFTERNOON TRANSMISSION.

### EARLY EVENING SESSION.

- 6.30 p.m.: From the Studio—  
A Christmas Night session for little lis-  
teners by "Nucle Ben" and "Stanley."  
NIGHT SESSION.  
7.30 p.m.: From St. Stephen's Cathedral.  
Evening service.  
8.30 p.m.: From the Studio—  
A recital of electrically reproduced records  
9.30 p.m.: Close down.

## 5CL, ADELAIDE

Tuesday, December 25

### MORNING SESSION.

Announcer: J. L. Norris.

- 11 a.m.: G.P.O. chimes.  
11.1 a.m.: Christmas service from Parkside  
Baptist Church—  
Organ voluntary, Miss G. Coudrey.  
Invocation.  
Lord's Prayer (chanted).  
Hymn 89, "Christians, Awake!"  
Scripture, Matthew, Chapter 2, Verses 1-12.  
Solo, "There Came a Little Child to  
Earth," Miss Dulcie M'Namara.  
Prayer.  
Solo.  
Hymn 97, "Sweeter Sounds than Music  
Knows."  
Address, "The Guiding Star."  
Rev. B. E. C. Tuck.  
Hymn 87, "Angels from the Realm of  
Glory."  
Benediction.  
Organ voluntary.  
11.45 a.m.: "The Advertiser" general news  
service.  
12.0 (noon): G.P.O. chimes and close down.

### EVENING SESSION.

- 7.0 p.m. G.P.O. chimes.  
7.1 p.m.: Moments of Happiness for the  
Children by "The Wattle Lady."  
Greetings and Special Christmas Songs.  
Round the World with Father Christmas.

### NIGHT SESSION.

- 7.30 p.m.: Mona Nugent, pianist—  
"Eroica Sonata," 1st movement (M'Dowell)  
7.36 p.m.: Gertrude Gray, mezzo—  
"Caro Mio Ben" (Giordani).  
"Trees" (Rasbach).  
7.42 p.m.: Sheard and Lavis, entertainers—  
In special piano and vocal selections.  
7.48 p.m. Diana Belmont, contralto—  
"Prelude" (Ronald).  
"The Daily Question" (Helmond).  
7.54 p.m.: Mona Nugent, pianist—  
"Golliwogs' Cake Walk" (Debussy).  
"Romance" (Sibelius).  
8.0 p.m.: Sydney Hollister, humorist—  
In droll humor.  
8.8 p.m.: Sheard and Lavis, instrumenta-  
lists—  
Piano and vocal selections.  
8.14 p.m.: Diana Belmont, contralto—  
"The Winds are Calling" (Ronald).  
8.20 p.m.: A Special Choral Service—  
"The Messiah" (Handel).  
Performed by the Choir of the British  
Broadcasting Corporation.  
H.M.V. Recordings.  
8.0 p.m.: God Save the King.

## 6WF, PERTH

Tuesday, December 25

- 10.45 a.m.: Tune in. 11.0 a.m.: Christmas  
service, relayed from Charles Street  
Methodist Church, West Perth. 12.15  
p.m.: Close down. 3.30 p.m.: Tune in.  
3.35 p.m.: Special Christmas concert, from  
the studio. 4.30 p.m.: Close down. 6.45  
p.m.: Tune in. The evening transmission  
is broadcast on 104.5 metres, as well as  
the usual wave-length. 6.48 p.m.: Christ-  
mas playette for the kiddies, by Uncles  
Henry, Percy, and Duffy, and Aunties  
Amy and Audrey. 7.30 p.m.: Local news  
items, etc. 7.45 p.m.: Vocal and instru-  
mental numbers. 8.0 p.m.: Time signal.  
8.1 p.m.: Weather notes, supplied by the  
Meteorological Bureau of West Australia.  
Station announcements, such as altera-  
tions to programmes, etc. 8.3 p.m.: Vocal  
and instrumental Christmas concert from  
the studio. 9.0 p.m.: Late news items,  
etc. 10.30 p.m.: Close down.  
10.45 Metre transmission. Simultaneous  
broadcast on 104.5 metres of programme  
given on 1250 metres, commencing at 6.45  
p.m.

## 7ZL, HOBART

Tuesday, December 25

### MORNING SESSION

Announcer: Jack Broadbent.

- 11.0 a.m.: Transmission from Memorial Con-  
gregational Church, Brisbane Street, Ho-  
bart. 12.30 p.m.: Close down.

### AFTERNOON SESSION

Announcer: Jack Broadbent.

- 3.30 p.m.: G.P.O. clock chimes the hour.  
3.31 p.m.: Transmission from Paton's  
Music Warehouse, Liverpool Street, Ho-  
bart. A Christmas programme of vocal  
and instrumental items, by the leading  
international artists. 4.30 p.m.: Close  
down.

### EARLY EVENING SESSION

Announcer: Jack Broadbent.

- 6.15 p.m.: M'elie Columbia broadcasts. 6.30  
p.m.: Chorus singing (conductor, Trevor  
M. Morris, of Children's Special Service  
Mission). 6.45 p.m.: Answers to letters  
and birthday greetings, by "Uncle David."  
6.50 p.m.: M'elie Columbia broadcasts.  
7.0 p.m.: M'elie Columbia broadcasts a  
children's programme—Handbells, "Chim-  
ing Bells of Long Ago"; stories and animal  
imitations, "Nursery Rhymes"; orchestra,  
"The Clock is Playing"; medley, "Steam-  
boat Medley"; "Farmyard Medley."

### EVENING SESSION.

- 7.30 p.m.: M'elie Columbia broadcasts. 8.0  
p.m.: Transmission from St. David's  
Cathedral, Murray Street, Hobart, Carol  
Service. 9.0 p.m.: From the Studio, Sac-  
red music by the Discus Ensemble—Organ  
solo, by Pattman, "Ave Maria," "All  
Cigue"; Clara Butt (contralto), "God  
Shall Wipe Away All Tears," "Abide With  
Me"; The B.B.C. Choir, "O, Day of Rest  
and Gladness," "O, Worship the King";  
F. Beaslau (contralto), "Eili Eili," "Good  
Night" in Russian; organ solo, by Patt-  
man, "Jesus Shall Reign," "Dear Saviour  
Ever At My Side. 9.45 p.m.: News ses-  
sion—"Mercury" special news service;  
ships within wireless range; weather in-  
formation; British official wireless news.  
9.50 p.m.: Our Tasmanian Good-night  
thought. God Save the King. Close down.

## Wednesday, Dec. 26

New South Wales Broadcasting  
Company, Limited

## 2FC SERVICE

### EARLY MORNING SESSION.

Announcer: Laurence Halbert.

- 7 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" sum-  
mary.  
7.12 a.m.: Shipping intelligence; mails ser-  
vice.  
7.15 a.m.: Studio music.

- 7.25 a.m.: Investment market; mining  
sharemarkets; 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.  
10.3 a.m.: Pianoforte reproduction.  
10.10 a.m.: "Sydney Morning Herald" news  
service.  
10.25 a.m.: Studio music.  
11.0 a.m.: Big Ben; A.P.A. and Reuter's  
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.  
12.3 p.m.: Official weather forecast.  
12.5 p.m.: From the Sydney Cricket Ground.  
Description of the inter-State cricket,  
New South Wales (2) v. Victoria (2).  
The description of the A.J.C. meeting at  
Randwick will be given in the running,  
and we will cross to Randwick racecourse  
for the first race, returning to the Cricket  
Ground for a continuation of the match  
in play.

From 2.15 the cricket will be described  
through 2BL service.

During sporting intervals items by the  
String Trio and the Wentworth Dance  
Band.

- 4.45 p.m.: From the Studio.  
Complete sporting resume.  
5 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 Uncle  
Ted and "Sandy"; letters and stories;  
music and entertainment.  
6.30 p.m.: Weather intelligence; shipping.  
6.35 p.m.: Sporting news; late news.  
6.55 p.m.: Dinner music.

### 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.  
7.55 p.m.: Popular music.  
8.0 p.m.: Big Ben. From the Haymarket  
Theatre, the Haymarket Theatre Orches-  
tra, under the baton of Stanley Porter.  
8.20 p.m.: From the Studio.  
The Two Tonics, entertainers.  
8.30 p.m.: Arthur Stender, champion cor-  
netist of Australia, late of the Australian  
Commonwealth Band.  
(a) "Melody in F" (Rubinstein).  
(b) "Sweet Spirit, Hear My Prayer" (Wal-  
lace).  
8.38 p.m.: Nea Hallet, popular vocalist.  
8.44 p.m.: The Mellow Fellows.  
9.0 p.m.: Big Ben. Weather report.  
9.1 p.m.: "Chronicles of Creamy Creek,"  
told by the Bush Parson.  
9.16 p.m.: The Mellow Fellows.  
9.30 p.m.: From the Haymarket Theatre,  
the Haymarket Theatre Orchestra, under  
the baton of Stanley Porter.  
9.50 p.m.: From the studio. The Two  
Tonics, entertainers.  
10.5 p.m.: Arthur Stender, cornet solos.  
(a) "A Little Love, a Little Kiss" (Silesu).  
(b) "Serenade" ("The Student Prince")  
(Romberg).  
10.10 p.m.: Nea Hallett, popular vocalist.  
10.17 p.m.: The Mellow Fellows.  
10.27 p.m.: To-morrow's programme.  
10.30 p.m.: Roaming the ether. The New  
South Wales Broadcasting Company, Lim-  
ited, through the courtesy of the Amal-  
gamated Wireless, Limited, has presented  
a novelty each Wednesday night for the  
last five weeks, when listeners have had  
an opportunity of visiting various coun-  
tries by wireless. To-night we will endeav-  
or to relay from all five of the overseas  
stations, XAF Schenectady, ANE Java,  
JHBB Japan, RFN Russia, and PCLL  
Holland.  
10.45 p.m.: National Anthem. Close down.

## 2BL SERVICE

Wednesday, December 26

### 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.



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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.  
 9.0 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 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, inter-State cricket, New South Wales (2) v. Victoria (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.

2.45 p.m.: During the afternoon descriptions of the cricket match, New South Wales (2) v. Victoria (2) will be broadcast from the Sydney Cricket Ground.  
 Items from the studio will be given by Jack Clifton and Michael O'Keefe.  
 4.45 p.m.: From the studio, complete sporting resume.  
 5.0 p.m.: From the Sydney Cricket Ground, description of the inter-State match, New South Wales (2) v. Victoria (2).

## EARLY EVENING SESSION.

Announcer: J. Knight Barnett.

5.40 p.m.: Children's session; music and entertainment.  
 5.6 p.m.: Letters and stories.  
 6.30 p.m.: "Sun" news service.  
 6.40 p.m.: Dinner music.  
 7.10 p.m.: Complete sporting resume.  
 Complete racing resume.  
 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 K.P.K.A. (United States of America), which station 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 p.m.: G.P.O. clock and chimes.  
 The Savoyans Dance Band.  
 8.15 p.m.: Alex. Whitson, baritone—  
 (a) "From Oberon in Fairyland" (Slater).  
 (b) "Beware of the Maidens' Craske Day).  
 8.22 p.m.: From the Rose Bay Wintergarden Theatre—The Wintergarden Theatre Orchestra, conducted by Lionel Hart.  
 8.42 p.m.: From the studio—  
 Graham and Manning, entertainers—  
 (a) Duet, "I'd Like a Little Girl Like You" (Cardow).  
 (b) "Twins in September" (Hein), Dorothy Manning.  
 (c) Duet, "Love, Wonderful Love" (Morgan).  
 8.52 p.m.: The Savoyans' Dance Band.  
 9.5 p.m.: Weather report and forecast.  
 9.6 p.m.: Alex. Whitson, baritone—  
 (a) "Blow, Blow, Thou Winter Wind" (Sargeant).  
 (b) "The Song of the Sea" (Charles).  
 9.13 p.m.: The Savoyans' Dance Band.  
 9.23 p.m.: Claude Corbett will speak on general sporting.  
 9.35 p.m.: From the Rose Bay Wintergarden Theatre—The Wintergarden Theatre Orchestra, conducted by Lionel Hart.  
 9.55 p.m.: From the studio—  
 Art, Leonard in the newest song hits.  
 10.2 p.m.: Graham and Manning, entertainers—  
 (a) "Sport" (Arthur), Harry Graham.

(b) "Oh, Sarah! Oh, Henry" (Long-staffe), duet.  
 10.12 p.m.: The Savoyans' Dance Band.  
 10.25 p.m.: Art, Leonard in the newest song hits.  
 10.32 p.m.: Late weather report.  
 10.33 p.m.: The Savoyans' Dance Band.  
 10.57 p.m.: Resume of following day's programme.  
 10.59 p.m.: The Savoyans' Dance Band.  
 11.30 p.m.: National Anthem; close down.

## 2GB, SYDNEY

Wednesday, December 26

10.0 a.m.: Music. 10.10 a.m.: Happiness talk by A. E. Bennett. 10.20 a.m.: Music.  
 10.30: 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, Ltd.  
 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. Will Stelzer. 8.30 p.m.: Flute solos by Mr. Leslie Sproule. 8.40 p.m.: Songs by Miss Edith Allen Taylor.  
 8.50 p.m.: Violin solos by Mr. Cecil Berry. 9.0 p.m.: Weather report and address.  
 9.15 p.m.: Cello solos by Mr. Cedric Ashton. 9.30 p.m.: Songs by Mr. Will Stelzer. 9.40 p.m.: Flute solos by Mr. Leslie Sproule. 9.50 p.m.: Songs by Miss Edith Allen Taylor. 10.0 p.m.: Dance music by the 2GB Instrumental Trio. 10.30 p.m.: Close down.

## 2UW, SYDNEY

Wednesday, December 26

## MIDDAY SESSION.

12.30 p.m.: To-day's anniversary. 12.32 p.m.: Music. 1 p.m.: G.P.O. clock and chimes music. 2 p.m.: Talks to women. 2.15 p.m.: "Cheerio Talk." 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 p.m.: G.P.O. clock and chimes; music. 7.10 p.m.: News items. 7.30 p.m.: Musical interlude. 7.35 p.m.: Talk on music. 8 p.m.: G.P.O. clock and chimes; music. 9 p.m.: G.P.O. clock and chimes. Comments on Foreign Affairs, by Mr. J. M. Prentice. 9.10 p.m.: Music and request numbers. 10.0 p.m.: Close down.

## 3LO, MELBOURNE

Wednesday, December 26

## 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.

10.50 a.m.: Eric Welch will speak on to-day's V.A.T.C. races at Caulfield. 11.0 a.m.: Sonora recital of the world's most famous records. 11.30 a.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C., by Rod M'Gregor.

## MID-DAY 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.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C., by Rod M'Gregor. 1.15 p.m.: Meteorological information. Weather forecast for Victoria, South Australia, New South Wales, and Tasmania. Ocean forecasts. River reports. Rainfall. 1.22 p.m.: Sonora recital of the world's most famous records.

## AFTERNOON SESSION.

Announcer: Frank Hatherley.

1.23 p.m.: Description of Shoobra Hurdle Race, 2 miles 65 yards, at V.A.T.C. races

at Caulfield, by Eric Welch. 1.35 p.m.: Sonora recital of the world's most famous records. 2.0 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C., by Rod M'Gregor. 2.28 p.m.: Description of Juvenile Stakes, 5 furlongs, V.A.T.C. races, at Caulfield. 2.35 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C. 3.3 p.m.: Description of Christmas Handicap, 6 furlongs, at V.A.T.C. races, Caulfield. 3.10 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C. 3.38 p.m.: Description of Malvern Handicap, 1 mile, V.A.T.C. Races, at Caulfield. 3.45 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C. 4.0 p.m.: Sonora recital of the world's most famous records. 4.13 p.m.: Description of Hopetoun Handicap, 1 mile 3 furlongs, V.A.T.C. races, at Caulfield. 4.20 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C. 4.48: Description of Koornang Welter, 7 furlongs, V.A.T.C. races at Caulfield. 4.55 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C. 5.0: "Herald" news service. During the afternoon progress scores of the Sheffield Shield cricket match, South Australia v. Queensland, at Adelaide, will be given as they come to hand, also results of the Penshurst races. 5.10 p.m.: Description of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C. 6.0 p.m.: Stumps' scores.

## EVENING SESSION.

Announcer: Maurice Dudley.

6.5 p.m.: Answers to letters and birthday greetings by "Billy Bunny."  
 6.30 p.m.: Musical interlude.  
 6.35: Captain Donald MacLean, "More Pirate Adventures."  
 6.50 p.m.: "Billy Bunny" has a holiday story for you.

## NIGHT SESSION.

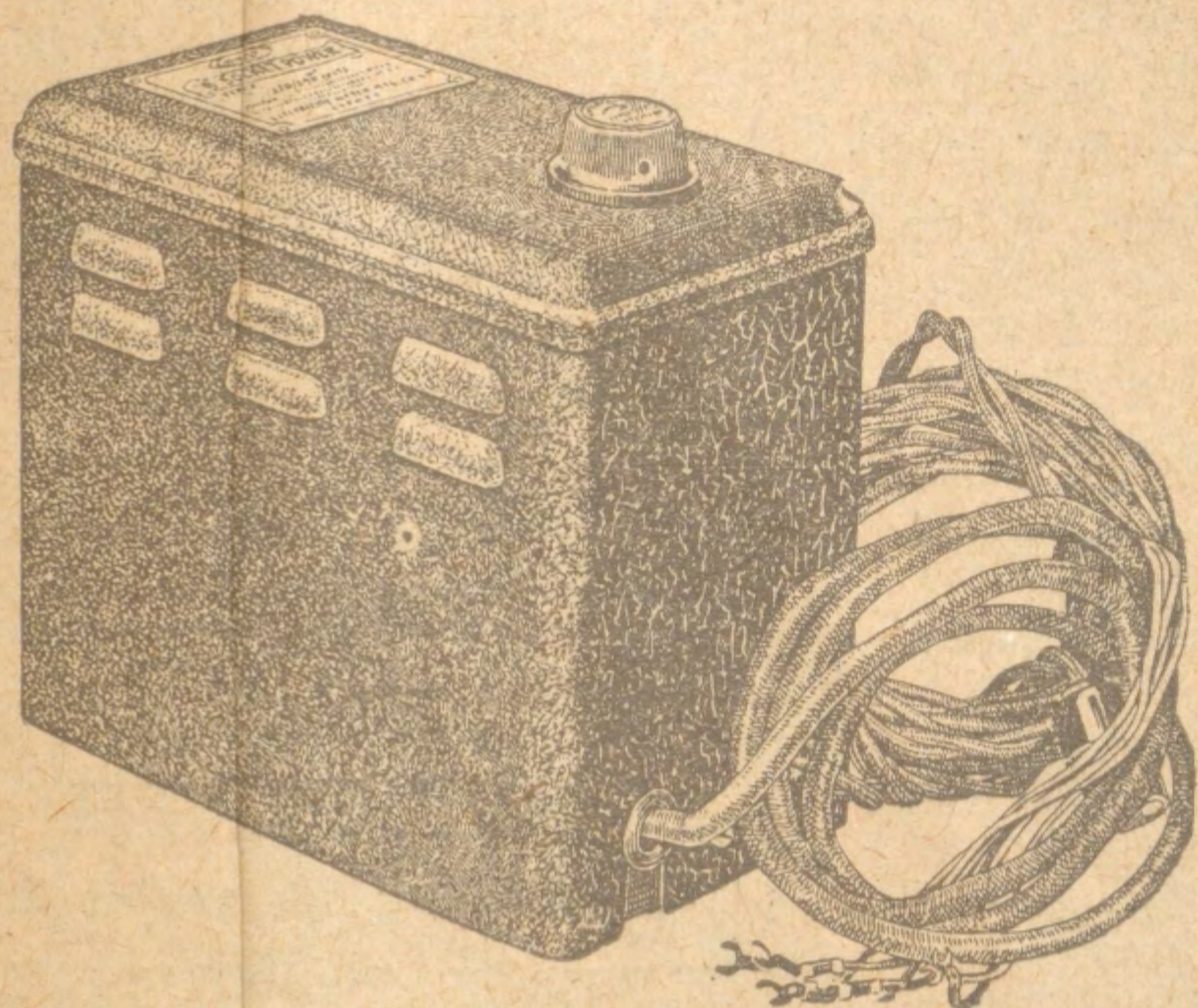
Announcer: C. J. O'Connor.

Accompanist: Agnes Fortune.

7.0 p.m.: The Station Orchestra, "First and Second Movement, Symphony Op. 21" (Beethoven).  
 7.10 p.m.: Adelaide Meuleman, soprano, "Se to M'ami" (De Fesche), "Star Vicino" (Salvator Rosa).  
 7.17 p.m.: The Station Orchestra, "Second and Third Movements of Symphony, Op. 21" (Beethoven).  
 7.27 p.m.: Guildford Bishop, violin, "Elegie" (Ernst).  
 7.32 p.m.: Keith Desmond, elocutionist, "The Little Bottom Drawer" (Valentine), "My Only Pal" (Parsons).  
 7.39 p.m.: The Station Orchestra, selection, "Sybil" (Jacobi).  
 7.49 p.m.: Adelaide Meuleman, soprano, "Thou'rt Lovely as a Flower" (Schumann), "Moonlight" (Schumann).  
 7.56 p.m.: The Station Orchestra, "Hungarian Dance" (Brahms).  
 8.0 p.m.: Captain Donald MacLean, "Pirates of the Past."  
 8.15 p.m.: Brunswick City Band, overture, "Gigantique" (Bulch); march, "National Emblem" (Bagley).  
 8.25 p.m.: Mollie Mackay, soprano, "Flower Rain" (Schneider), "Ships of Arcady" (Schneider).  
 8.32 p.m.: Brunswick City Band, "selections, "Gems of Scotia" (Round).  
 8.42 p.m.: Freda Treweek, mezzo-contralto, "The String of Pearls," "The Little Damsel" (Novello).  
 8.49 p.m.: Brunswick City Band, march, "The Rover" (Hume).  
 8.54 p.m.: James Scott, bass-baritone, "The Lute Player" (Allitsen), "What the Red-Hair'd Bo'sun Said" (Harry).  
 9.0 p.m.: Viva Holgate Clarke, piano, "Kindusenen" (Schumann).  
 9.20 p.m.: Freda Treweek and James Scott, mezzo-contralto and bass-baritone, duets, "Nocturne" (Chaminade), "Wanderer's Night Song" (Rubinstein).  
 9.27: Brunswick City Band, selection, "Recollections of Carl Rosa" (Round).  
 9.37 p.m.: Mollie Mackay, soprano, "Venetian Song" (Tosti), "Go Not Happy Day" (Bridge).  
 One-act play, "Phipps," by Stanley Houghton, produced by Terence Crisp. Characters: Lady Fanny, Louise Moorehead; Sir Gerald, Eric Donald; Phipps, a butler, Terence Crisp. Scene: The library of Sir Gerald's London house.  
 10.0 p.m.: Brunswick City Band, waltz, "The Prairie Queen" (Greenwood).  
 10.7 p.m.: Pat. M'Lean, soubrette, "Child Impersonations."  
 10.14 p.m.: The Radi-o-Aces, "Googily-Goo" (Davis), "Adoree" (West), "That Stolen Melody" (Fisher).



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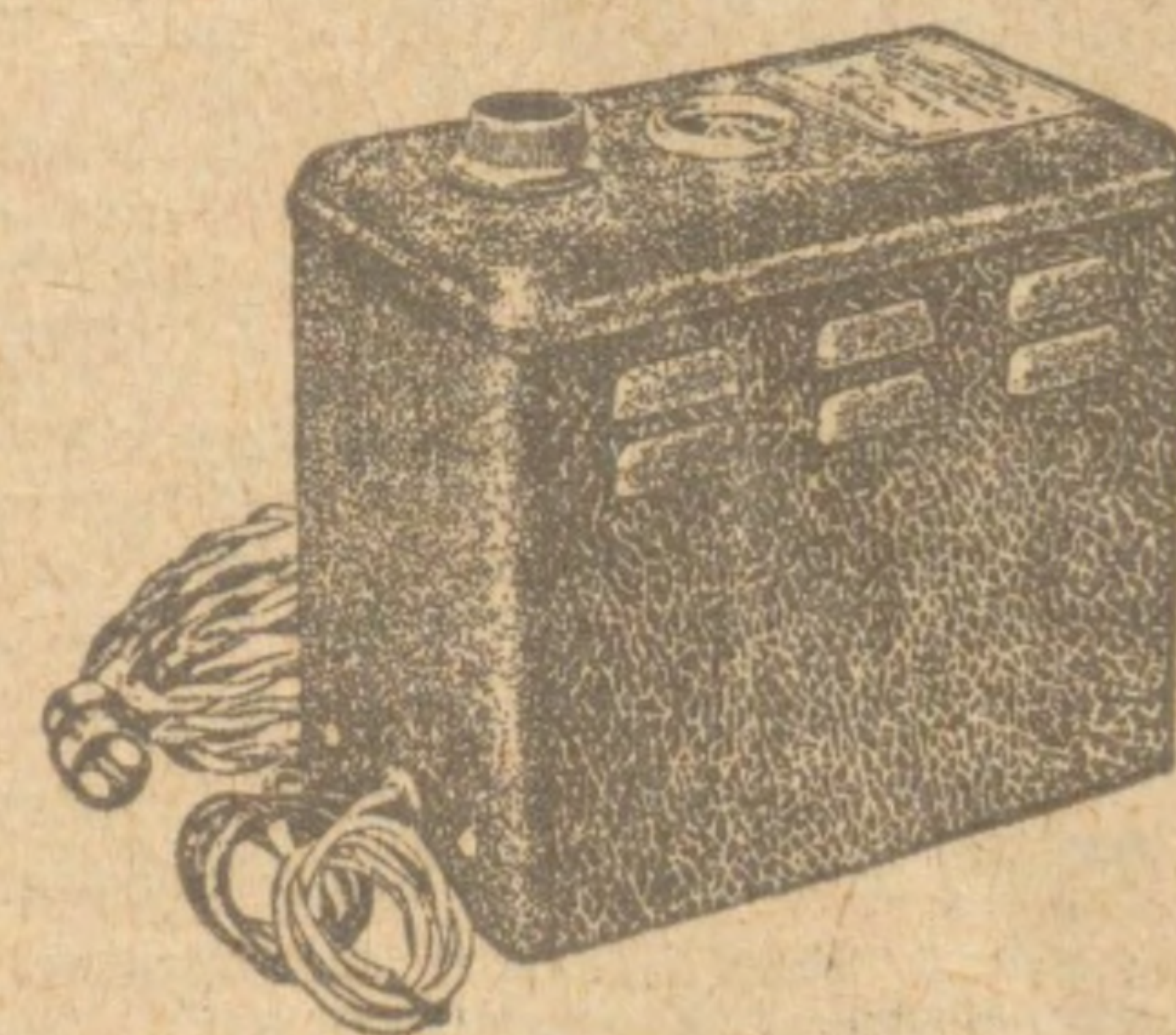
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- 10.23 p.m.: Pat. McLean, soubrette, "Child Impersonations."  
 10.30 p.m.: "Argus" news service. British official wireless news from Rugby; meteorological information. Stump scores, Sheffield Shield cricket matches, Victoria v. New South Wales at M.C.C., and South Australia v. Queensland at Adelaide.  
 10.40 p.m.: The Brunswick City Band, cornet polka, "The Snapshot" (Round); march, "The Saracen" (Rimmer).  
 10.48 p.m.: Our great thought.  
 10.50 p.m.: The Radi-o-Aces, "Chloe" (Kahn), "I'm Tired of Making Believe" (Kelley), "That's What You Mean to me" (Davis), "Chips" piano solo (Masman), "Just Like a Melody Out of the Sky" (Donaldson), "Beloved" (Kahn), "Because my Baby Don't Mean Maybe Now" (Donaldson), "I Love to Dunk a Hunk of Sponge Cake" (Castill), "Rain" (Ruby), "Ramona" (Wayne), "Clarinet Marmalade" (Fergus), "Loneliness" (Pollack); "Goodnight Waltz" (Bibe).  
 11.40 p.m.: God Save the King.

## 3AR, MELBOURNE

Wednesday, December 26

### MORNING NEWS SESSION

- 10.0 a.m.: G.P.O. clock says "Ten." 10.1 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—"Please Tell Me" (Miller); "Adoree" (Silver). "You're in Love, I'm in Love" (Donaldson); "Never Before, Never Again"; "Laugh, Clown, Laugh" (Young); "Sticky Paws" (Andrind). 11.20 a.m.: Clifford Creighton, baritone—"From Rushy Beds of Silver Nile" (Balfe); "Captain Mac" (Sanderson). 11.27 a.m.: The 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"; "Get Out and Get Under the Moon" (Tobias). 11.42 a.m.: Roy Ryan, entertainer, will sing and whistle—"Blue Skies"; "Imitations." 11.49 a.m.: The Radi-o-Aces—"Somebody's Crazy About You" (Murphy); "What a Baby" (Whiting); "What Do I Care What Somebody Said?" (Woods); "Just Memory" (Henderson); "Lonesome in the Moonlight" (Baet); "Angelia Mia" (Rappee); "Kiss Before the Dawn" (Perkins); "Parting With You" (Conley). 12.20 p.m.: British official wireless; announcements. 12.30 p.m.: The Radi-o-Aces—"Chloe" (Kahn); "Lonely in a Crowd" (Greer); "Louisiana" (Schafer); "Nesting Time" (Nussbaum). 12.45 p.m.: Clifford Creighton, baritone, "The Fishermen of England" (Phillips); Selected. 12.52 p.m.: The Radi-o-Aces—"Guess Who's In Town" (Razay); "Because my Baby Don't Mean Maybe Now" (Donaldson); "Just Like a Melody Out of the Sky." 1.10 p.m.: Roy Ryan, entertainer, "After My Laughter Came Tears"; "The Midnight Waltz." 1.17 p.m.: The Radi-o-Aces—"Rain" (Ford); "Mine, All Mine" (Ruby); "Dolores" (Kassell); "Down Where the Sun Goes Down" (Jones). 1.30 p.m.: Close down.

### AFTERNOON SESSION

Announcer: Maurice Dudley.

Accompanist: Reg. Brown.

- 2.15 p.m.: The Station Orchestra, "Dances from Tom Jones" (German). 2.30 p.m.: Senia Chostiakoff, tenor, "Legend" (Tschakowsky); "Monotonously Rings the Bell" (Sarroff). 2.37 p.m.: The Station Orchestra, "Cinderella Dances" (Lohr). 2.52 p.m.: Jessie Ikin, soprano, "Could I?" (Tosti); "The Rain Fairy" (Arundel). 2.59 p.m.: The Station Orchestra, Suite, "Summer" (Chaminade); Selected. 3.15 p.m.: Bert Llewellyn, baritone, "Oft I Sigh for the Joys of Home" (Swift); "All Ye Who Love England" (Oliver). 3.22 p.m.: The Station Orchestra, "Three Dances" (C. Scott). 3.57 p.m.: Senia Chostiakoff, tenor, "Gipsy Romance" (Kosniloff); Request item. 4.4 p.m.: The Station Orchestra, "Slavic Dance" (Dvorak). 4.11 p.m.: Jessie Ikin, soprano, "Gossiping" (Dodge); "Love's Whisper" (Willeby). 4.18 p.m.: The Station Orchestra, "Dance of the Hours" (Ponchielli); selected. 4.33 p.m.: Bert Llewellyn, baritone, "A Son of the Desert" (Phillips); "Once More" (Tosti). 4.40 p.m.: The Station Orches-

- tra, Suite, "The Rake" (Quilter). 5.0 p.m.: Close down.

### EVENING SESSION.

Announcer: John O'Connor.

Accompanist: Reg. Brown.

- 6.0 p.m.: Superphonic harmonics. 7.0 p.m.: "Herald" news. 7.10 p.m.: Superphonics continued. 7.50 p.m.: Cricket results.

### NIGHT SESSION.

- 8 p.m.: Professor R. J. Berry, of the University of Melbourne, will speak on "Nashville and the Negroes."  
 8.15 p.m.: Commissioner W. D. Kennedy, of the Boy Scouts' Association, will speak on "Smiling and Whistling."  
 8.30 p.m.: Johnston's Studio Boys, March, "The Cossack." Selection, "Memories of Gilbert and Sullivan."  
 8.45 p.m.: Senia Chostiakoff, tenor—Serenade, "Night of Love" (Abta). "Diane" (Rapee).  
 8.52 p.m.: Johnston's Studio Boys—March, "The Booster." Euphonium solo, "Neptune, King of the Sea, Am I."  
 9 p.m.: Keith Desmond, entertainer—"A Warning to Wives" (Dryblower). Selected.  
 9.7 p.m.: Viva Holgate Clarke, piano—"Fantasia in C Minor" (Bach). "Sonata in C" (Scarletti). "Etudes in F and A Flat" (Chopin).  
 9.17 p.m.: Roy Ryan, entertainer—"Rose Marie." Request item.  
 9.24 p.m.: Johnston's Studio Boys—Selection, "Gems from the Master Works."  
 9.34 p.m.: Senia Chostiakoff, tenor—Two Russian Gipsy Songs.  
 9.41 p.m.: Johnston's Studio Boys—Waltz, "The Blue Danube." March, "Adalid."  
 9.51 p.m.: Keith Desmond, entertainer—"Jemmy's Boats" (Herbert). Request item.  
 9.58 p.m.: Johnston's Studio Boys—March, "B.B. and C.F." Part song, "Sweet and Low."  
 10 p.m.: Roy Ryan, entertainer—Request items.  
 10.10 p.m.: Johnston's Studio Boys—Gavotte, "Sun Flowers." Russian Mazurka, "Titania."  
 10.20 p.m.: "Age" news service, exclusive to 3AR; weather forecast; cricket and race results.  
 10.29 p.m.: Our Australian good-night quotation.  
 10.30 p.m.: God Save the King.

## 4QG, BRISBANE

Wednesday, December 26

### EARLY MORNING SESSION

Announcer: J. Tyson.

- 7.43 a.m.: From the Observatory—Time signals. 7.45 a.m.: News service supplied by courtesy of the "Daily Mail." 8 a.m.: Some electric records. 8.15 a.m.: News service supplied by courtesy of "The Courier." 8.30 a.m.: Close down.

### NO MORNING TRANSMISSION.

### NO MID-DAY TRANSMISSION.

### AFTERNOON SESSION.

- 5 p.m.: Close down.

### EARLY EVENING SESSION.

- 6 p.m.: Mail train running times. 6.5 p.m.: From the Paris Cafe—Dinner music. 6.30 p.m.: From the Studio—Bedtime stories by "Little Miss Brisbane." 7.15 p.m.: To-day's sporting news, weather news, some electric records. 7.43 p.m.: Time signals. 7.45 p.m.: "Reducing the cost of producing maize," by Mr. J. R. A. McMillan (Queensland Agricultural High School and College).

### NIGHT SESSION.

- 8 p.m.: From the Studio—Fox-trot, "Oh, You Have No Idea" (Dougherty). Fox-trot, "Old-fashioned Locket" (Winbrow).  
 8.10 p.m.: Claude Walker—Ten minutes with Henry Lawson.  
 8.20 p.m.: Alf. Featherstone and his Orchestra—Fox-trot, "The Varsity Drag" (Henderson). Fox-trot, "Good News" (Henderson).  
 8.30 p.m.: Harry Collins and the Orchestra—Ten minutes' nigger music.

- 8.40 p.m.: Alf. Featherstone and his Orchestra—Jazz Waltz, "Jeannine" (Skillert).  
 8.50 p.m.: Jean Naylor (contralto)—"Fairings" (Martin). "Little Miss Melody," from "The Boy" (Monckton).  
 8.58 p.m.: Metropolitan weather forecast. Movements of lighthouse steamers.  
 9 p.m.: Alf. Featherstone and his Orchestra—Fox-trot, "Dream House" (Cowan). Fox-trot, "After All I Adore You" (Richardson).  
 9.10 p.m.: Max Aronsten (violinist)—"Episode Romantique" (Walenn). "La Gitana" (Kreisler).  
 9.20 p.m.: Alf. Featherstone and his Orchestra—Fox-trot, "You're a Real Sweetheart" (Friml). Fox-trot, "Lonesome in the Moonlight" (Baer).  
 9.30 p.m.: Kenyon (the entertainer).  
 9.40 p.m.: Alf. Featherstone and his Orchestra—Jazz Waltz, "Once Again" (Lumsdaine).  
 9.50 p.m.: Irene Elphinstone (contralto)—"My Message" (D'Hardelot). "Tired Hands" (Sanderson).  
 10 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. Jean McDougall (soprano)—in between items.  
 11 p.m.: Close down.

## 6WF, PERTH

Wednesday, December 26

- 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.: Musical programme from the studio, including vocal and instrumental artists. 2 p.m.: A running commentary will be given of the racing events held at Perth Racecourse. 3.30 p.m.: Musical programme from the studio, including vocal and instrumental numbers. 5 p.m.: Close down. 6.45 p.m.: Tune in. The evening transmission is broadcast on 104.5 metres, as well as the usual wave-length. 6.48 p.m.: Uncle Duffy's evening with the kiddies. 7.5 p.m.: Talk, "First Aid," by Dr. Winifred Holloway, of London. 7.30 p.m.: Markets, news, and cables; sports results. 7.45 p.m.: Talk by Lieutenant-Colonel Le Soeuf, 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.: Musical programme from the studio, including vocal and instrumental artists; trotting events described in detail from the W.A. Trotting Grounds. 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

Wednesday, December 26

### MIDDAY SESSION.

### RACES.

Announcer: Jack Broadbent.

- 11.30 a.m.: His Master's Voice in moments merry and musical. 11.34: Special midlands weather forecast. 11.35 a.m.: His Master's Voice in moments merry and musical. 11.55 a.m.: Tasmanian stations' 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. 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. 12.33 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.: Running description of Shooobra Hurdle Race, 2 miles 65 yards, run at Caulfield racecourse, Caulfield, Melbourne. 1.35 p.m.: Transmission from the Imperial Hotel, Collins Street, Hobart. Speeches at the Rotary Club



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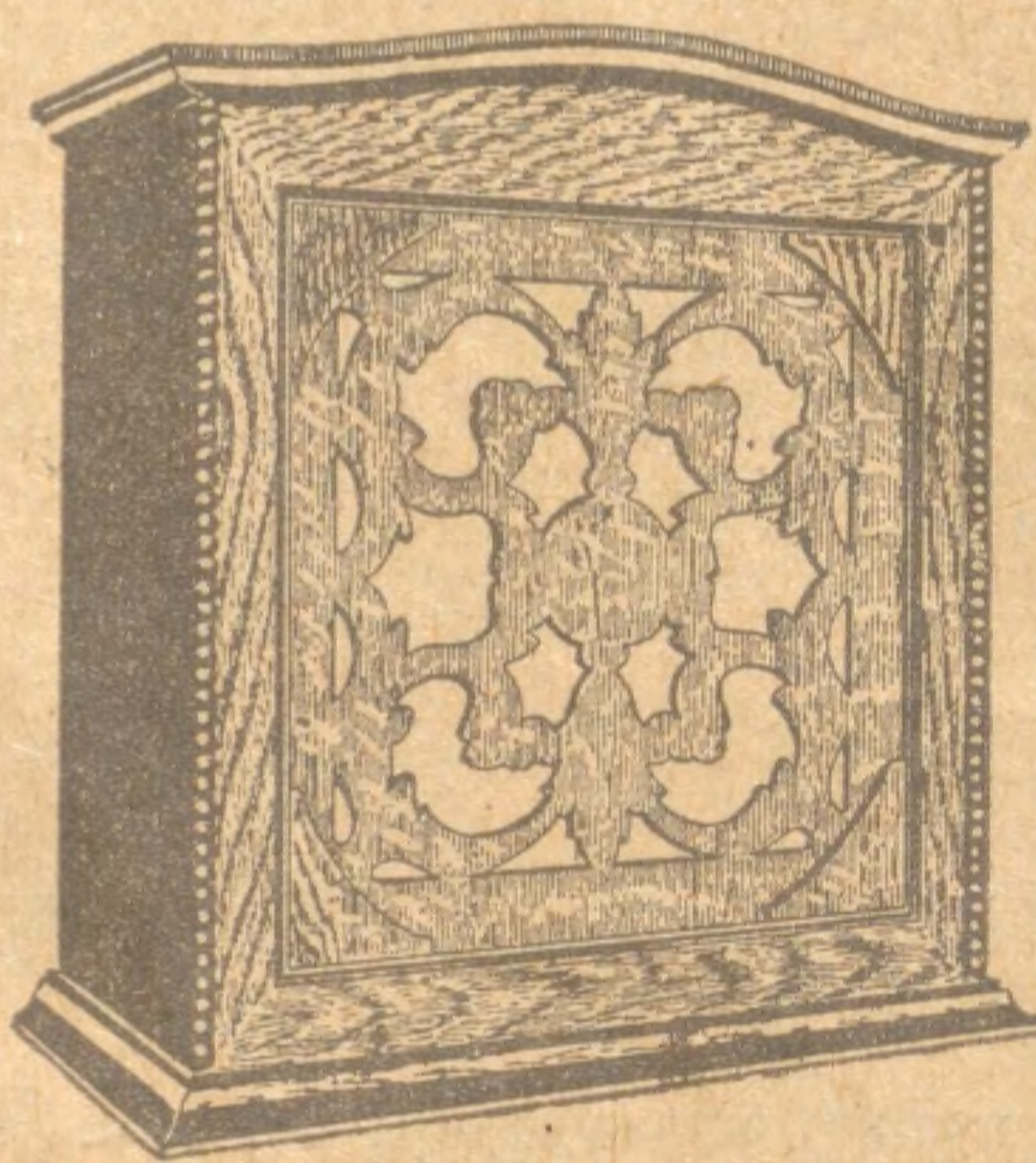
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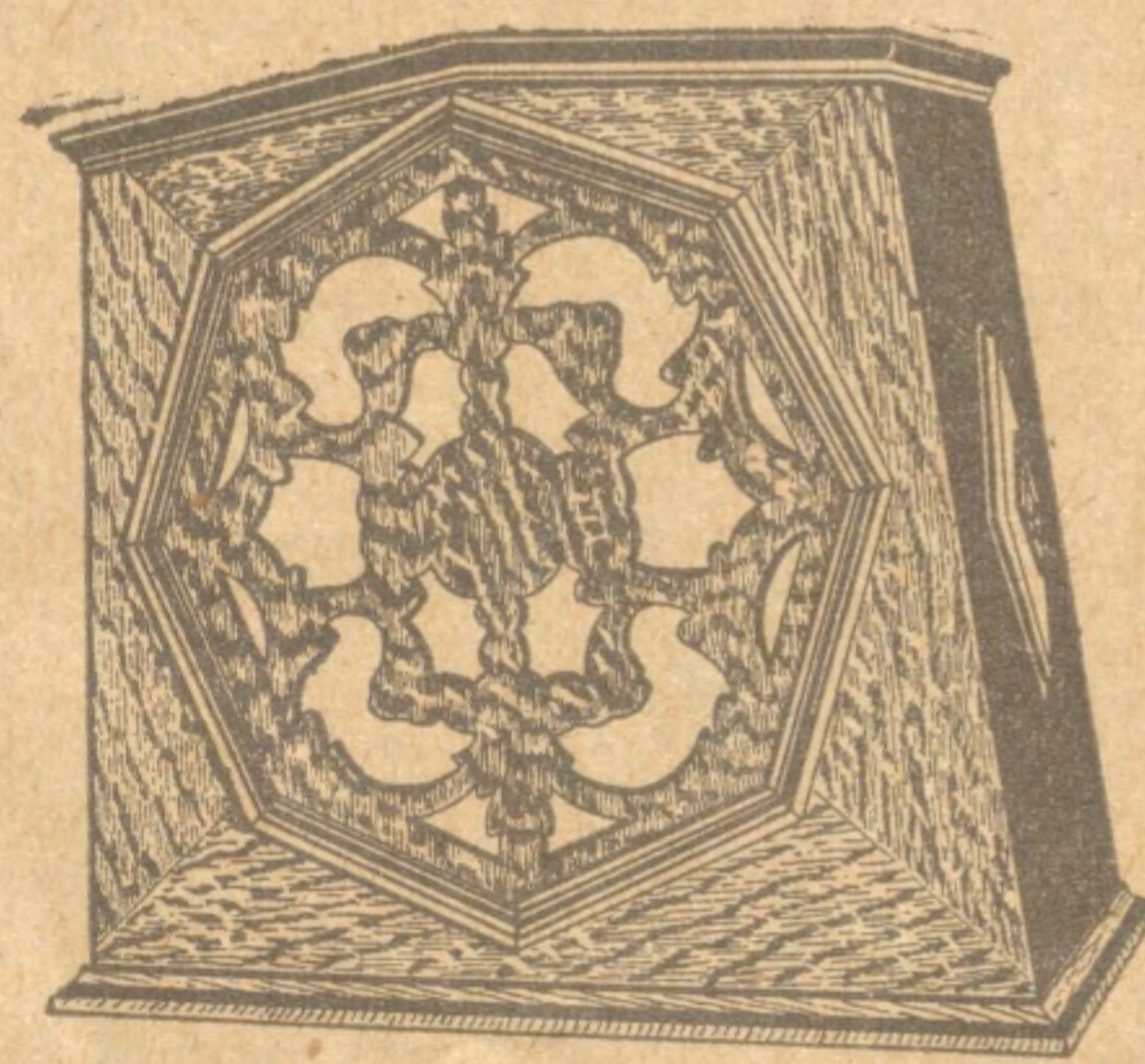
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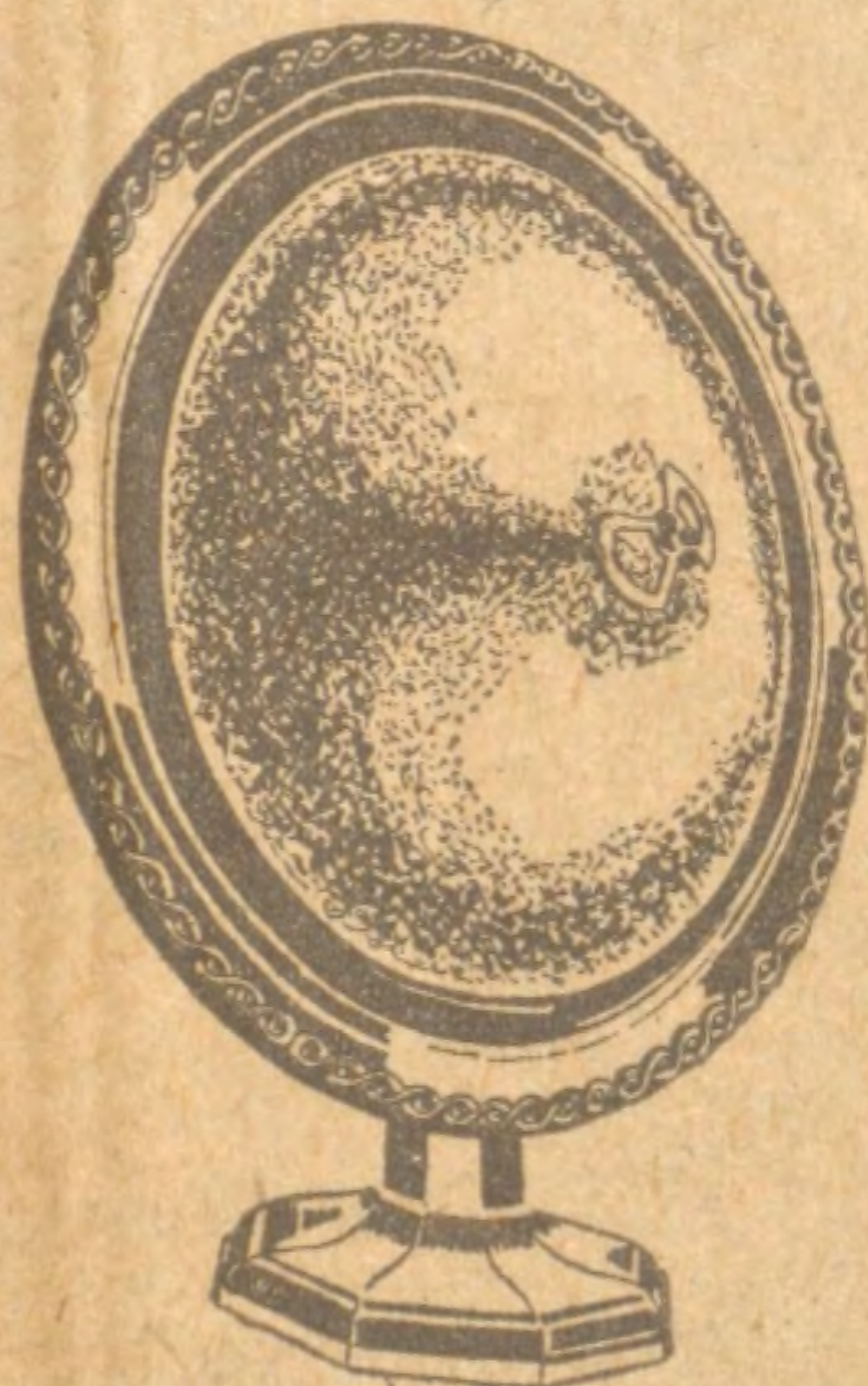
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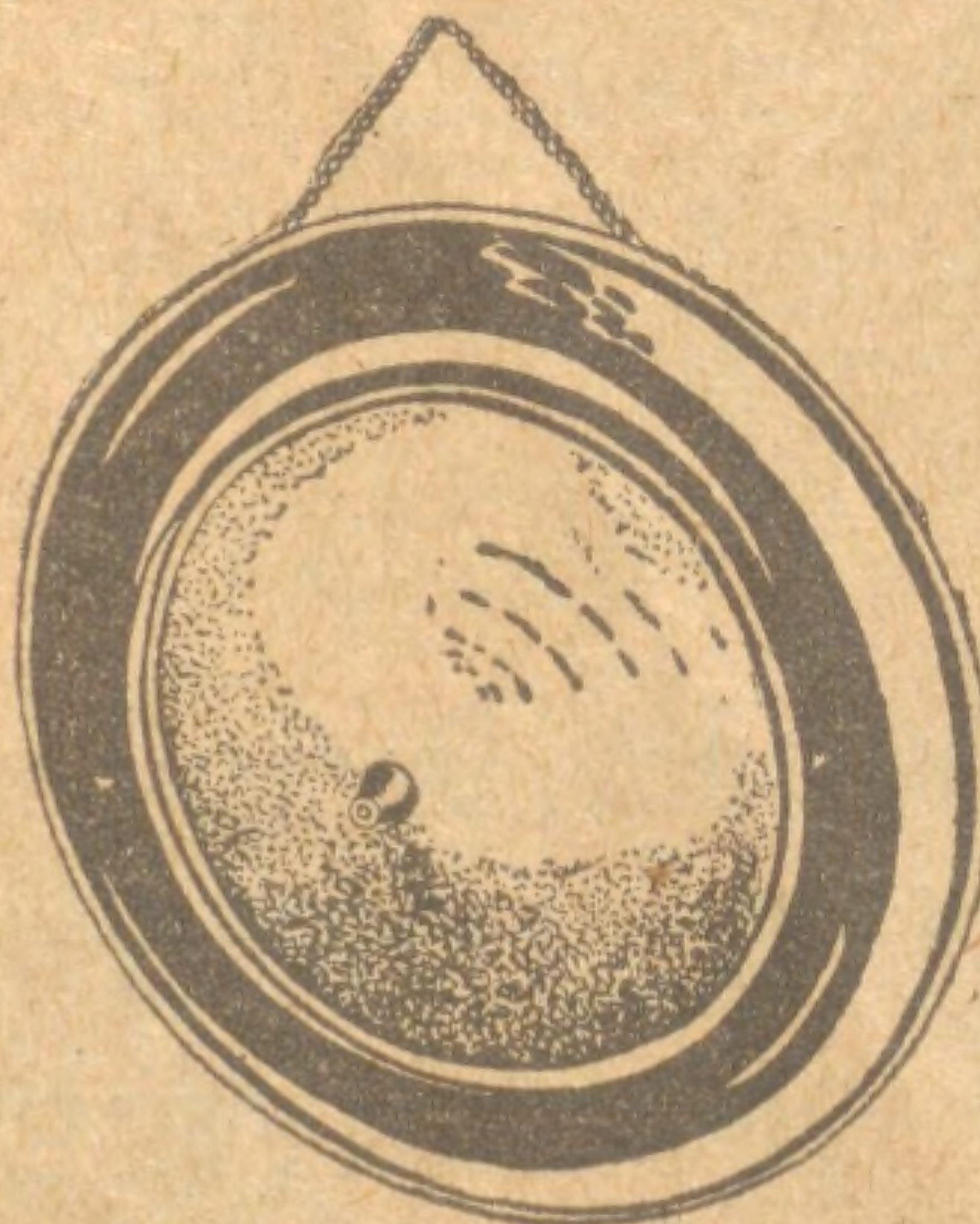
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luncheon. 2.0 p.m.: Close down. 2.30 p.m.: Running description of Juvenile Stakes, 5 furlongs, run at Caulfield racecourse, Caulfield, Melbourne, Victoria. 2.35 p.m.: Close down.

#### AFTERNOON SESSION.

Announcer: Jack Broadbent.

3.0 p.m.: G.P.O. clock chimes the hour. 3.5 p.m.: Running description of Christmas Hcp., 6 furlongs, run at Caulfield racecourse, Caulfield, Melbourne, Victoria. 3.10 p.m.: His Master's Voice in moments merry and musical. 3.18 p.m.: Weather information. 3.19: His Master's Voice in moments merry and musical. 3.40 p.m.: Running description of Malvern Handicap, 1 mile, run at Caulfield racecourse, Caulfield, Melbourne, Victoria. 3.45 p.m.: His Master's Voice in moments merry and musical. 4.15 p.m.: Running description of the Hopeton Handicap, 1 mile 3 furlongs, run at Caulfield racecourse, Caulfield, Melbourne, Victoria. 4.20 p.m.: His Master's Voice in moments merry and musical. 4.50 p.m.: Running description of Koornang Welter, 7 furlongs, run at Caulfield racecourse, Caulfield, Melbourne, Victoria. 4.55 p.m.: All sporting result to hand. 5.0: Close down. During the afternoon progress results will be given of the Sydney races (Randwick), Adelaide races, Tasmanian Turf Club, Sowell Trotting Club, Derby Trotting Club; also results will be given of the regatta held at New Norfolk, and tennis match, England v. Australia, at Sandy Bay lawn tennis court. 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. 6.30 p.m.: Bertha Southey Brammell will tell the children a Tasmanian fairy tale, "Mike Howe's Christmas Dinner," a true story of the old bushranging days in Tasmania, told to the writer by an old woman who was one of the actors in the story. 6.45 p.m.: His Master's Voice in Moments Merry and Musical. 7 p.m.: Answers to letters and birthday greetings by "Uncle David." 7.15 p.m.: News session—"Mercury" special news service; Railway auction produce sales; weather information; Hobart Stock Exchange quotations; results of ladies' golf.

#### EVENING SESSION.

7.30 p.m.: Geo. Nation will speak on "Garden Calendar." 7.45 p.m.: An article on "The Truth about Handicapping Horses," an interview with one who does it, by our Sporting Commissionaire. 8 p.m.: G.P.O. clock chimes the hour. 8.1 p.m.: Fifty years ago to-day—"The Span of Time." 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.: News session—British official wireless news; "Mercury" news service; ships within wireless range; Tasmanian district weather report. 10 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." Close down.

## Thursday, December 27

New South Wales Broadcasting  
Company, Limited

### 2FC SERVICE

#### 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 sharemarkets, 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 selection. 10.10 a.m.: "Sydney Morning Herald" news service. 10.25 a.m.: Studio music. 10.30 a.m.: Last-minute sporting informa-

tion 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.

#### 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). 12.48 p.m.: Studio music. 1.0 p.m.: "Big Ben," weather intelligence. 1.3 p.m.: "Evening News" midday news service. 1.10 p.m.: 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.

#### AFTERNOON SESSION.

Announcer: Laurence Halbert.

2.30 p.m.: Programme announcements. 2.32 p.m.: A recital of records of world-famous artists. 2.45 p.m.: Miss B. M'Caulay will continue her series of talks, "Your Son." 3.0 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. Ethel Muller (contralto). (a) "Just a Ray of Sunlight" (Squire). (b) "A Night of May" (Brahms). 3.46 p.m.: Cricket scores. A Reading. 4.0 p.m.: "Big Ben." Nancy Cottee (violinist). (a) "Song of the Desert" (Walenn). (b) "Nocturne," No. 2 (Chopin). 4.7 p.m.: Cliff Arnold, in Fragments of Melody. 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. Ethel Muller (contralto). (a) "Thou Bringest Peace" (Schubert). (b) "Nightfall at Sea" (Phillips). 4.30 p.m.: Nancy Cottee (violinist). (a) Bolero (German). (b) "Feville d'Album" (Gerald Walenn). 4.37 p.m.: Cliff Arnold in Fragments of Melody. 4.45 p.m.: Stock Exchange, third call. 4.47 p.m.: Popular music. 5.0 p.m.: "Big Ben." Close down.

#### EARLY EVENING SESSION.

Announcer: A. S. Cochran.

5.40 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 markets. 6.43 p.m.: Stock Exchange reports. 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.: 2FC Dinner Quartette, conducted by Horace Keats. (a) "Rouge et Noir" (Lotter), (b) "Summer Days" (Coates), (c) "Pale Moon" (Knight-Logan), (d) "Reconciliation Polka" (Drigo), (e) "A Summer Morn" (Haines), (f) "On the Way to Kew" (Clarke).

#### EVENING SESSION.

Announcer: A. S. Cochran.

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." From the Capitol Theatre, the Capitol Unit entertainment. 8.21 p.m.: From the studio, James Hay (tenor), of the late Gilbert and Sullivan Opera Company. 8.28 p.m.: The Light Music Four. "Arlette" (Novello).



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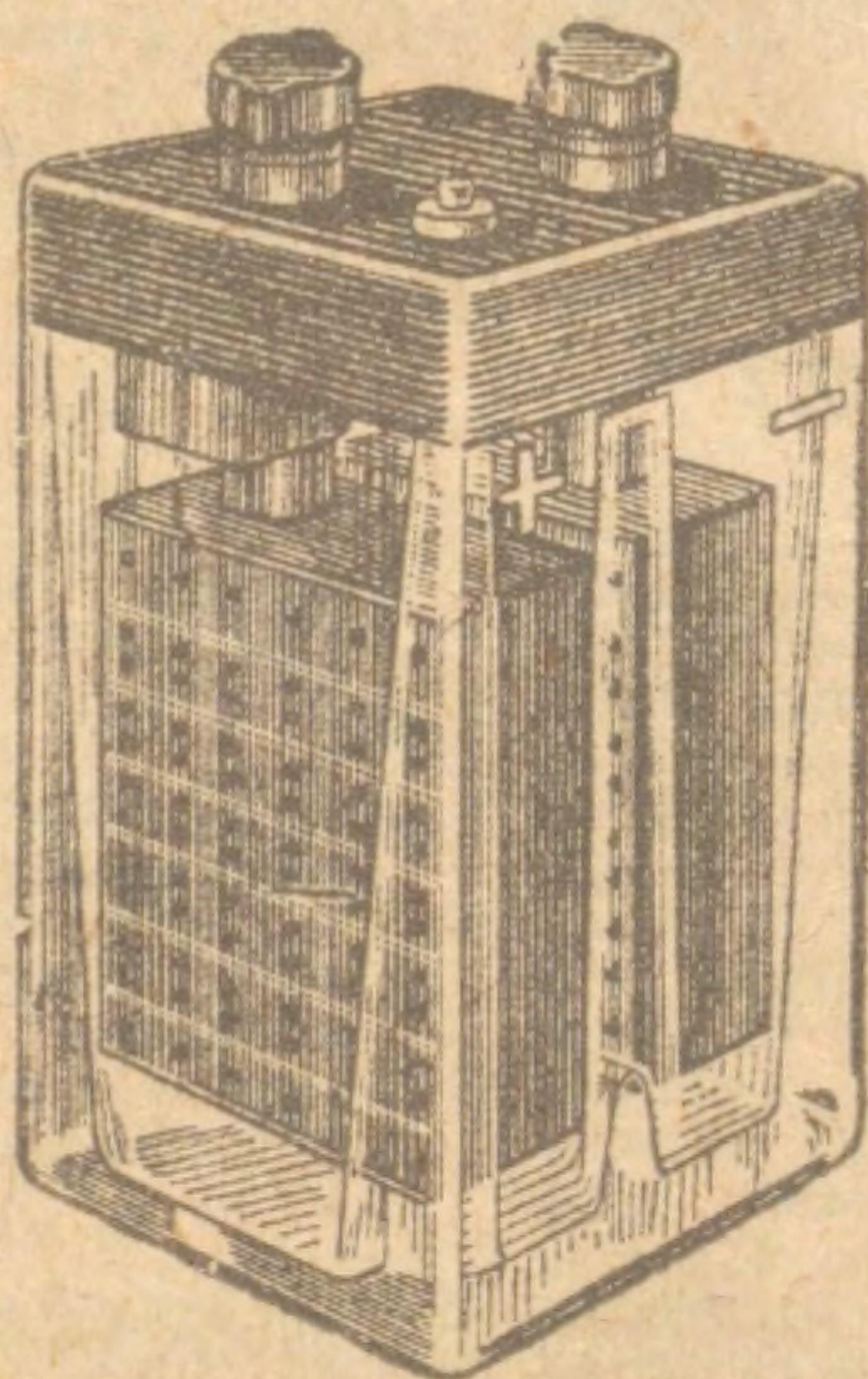
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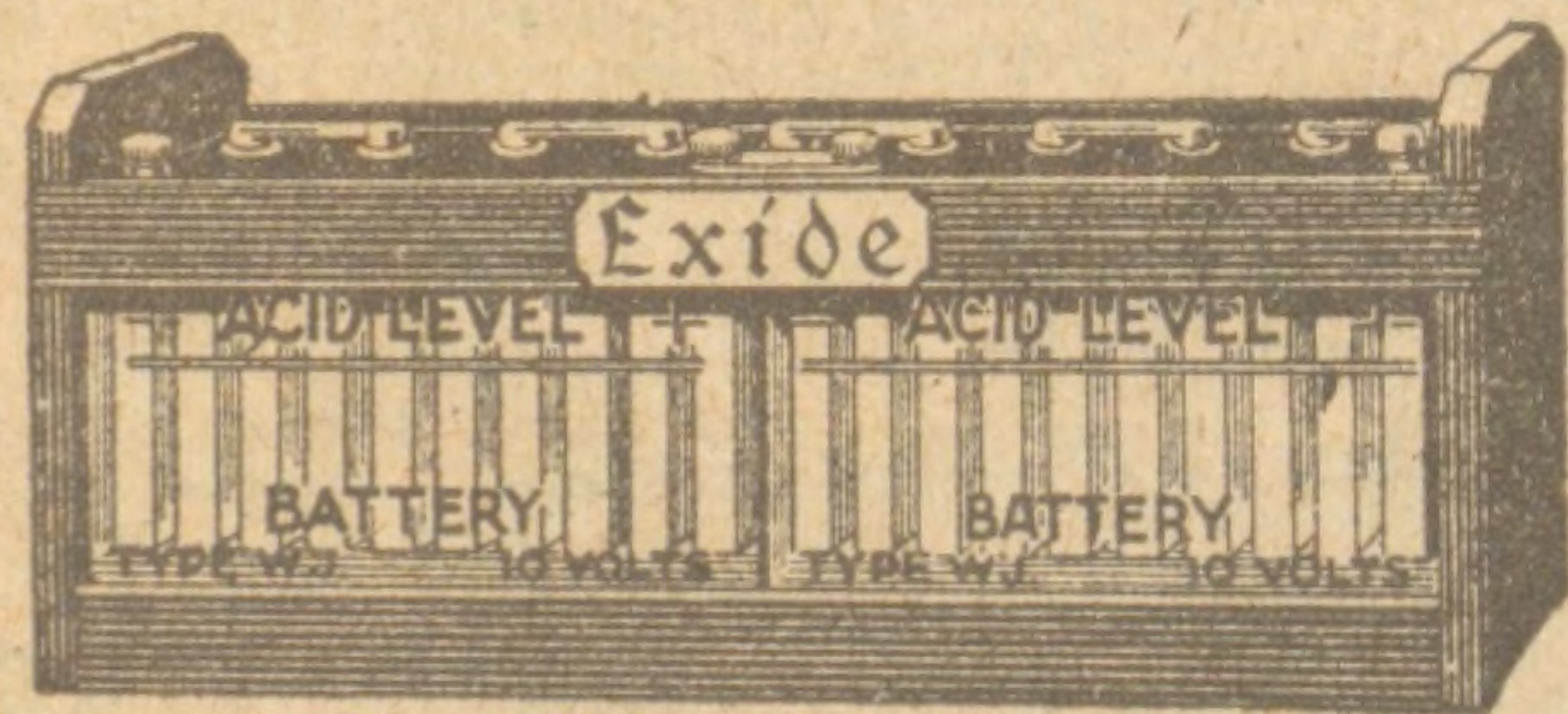
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8.38 p.m.: Radio Eisteddfod finalists. Listeners will have an opportunity of hearing the competitors who were successful in the recent Radio Eisteddfod conducted by the New South Wales Broadcasting Company, Limited.  
9.11 p.m.: "Big Ben." Weather report.  
9.12 p.m.: James Hay (tenor).  
9.20 p.m.: From the Capitol Theatre, the Capitol Unit entertainment.  
9.37 p.m.: From the studio, a talk by Lucille Bruntnell.  
9.50 p.m.: From the Hotel Australia, Cec. Morrison's Dance Band.  
10.0 p.m.: "Big Ben." Rae Foster (popular vocalist).  
10.7 p.m.: The Light Music Four.  
(a) Suite, "Romanesque" (Besly).  
(b) "Romance Sans Paroles" (Davidoff).  
10.21 p.m.: Len Maurice in the newest song hits.  
10.28 p.m.: Late weather report.  
10.30 p.m.: From the Hotel Australia, Cec. Morrison's Dance Band.  
10.40 p.m.: From the studio, Len Maurice in the newest song hits.  
10.47 p.m.: From the Hotel Australia, Cec. Morrison's Dance Band.  
10.57 p.m.: From the studio. To-morrow's programme.  
10.59 p.m.: From the Hotel Australia, Cec. Morrison's Dance Band.  
11.30 p.m.: National Anthem. Close down.

**2BL SERVICE**

Thursday, December 27

## 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 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.  
9.30 a.m.: Half an hour with silent friends.  
10 a.m.: G.P.O. clock and chimes. Close down.

## MIDDAY SESSION.

Announcer: Basil Kirke.

11 a.m.: G.P.O. clock and chimes. 2BL Women's Sports Association session, conducted by Miss G. Varley.  
11.30 a.m.: Advertising hints.  
11.40 a.m.: Women's session, conducted by Mrs. Cranfield.  
12 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.  
12.48 p.m.: "Sun" midday news service.  
12.45 p.m.: Cricket scores, N.S.W. II. v. Vic. II.  
1 p.m.: Studio music.  
1.30 p.m.: Talk to children and special entertainment for children in hospitals.  
1.57 p.m.: Cricket scores.  
2 p.m.: G.P.O. clock and chimes. Close down.

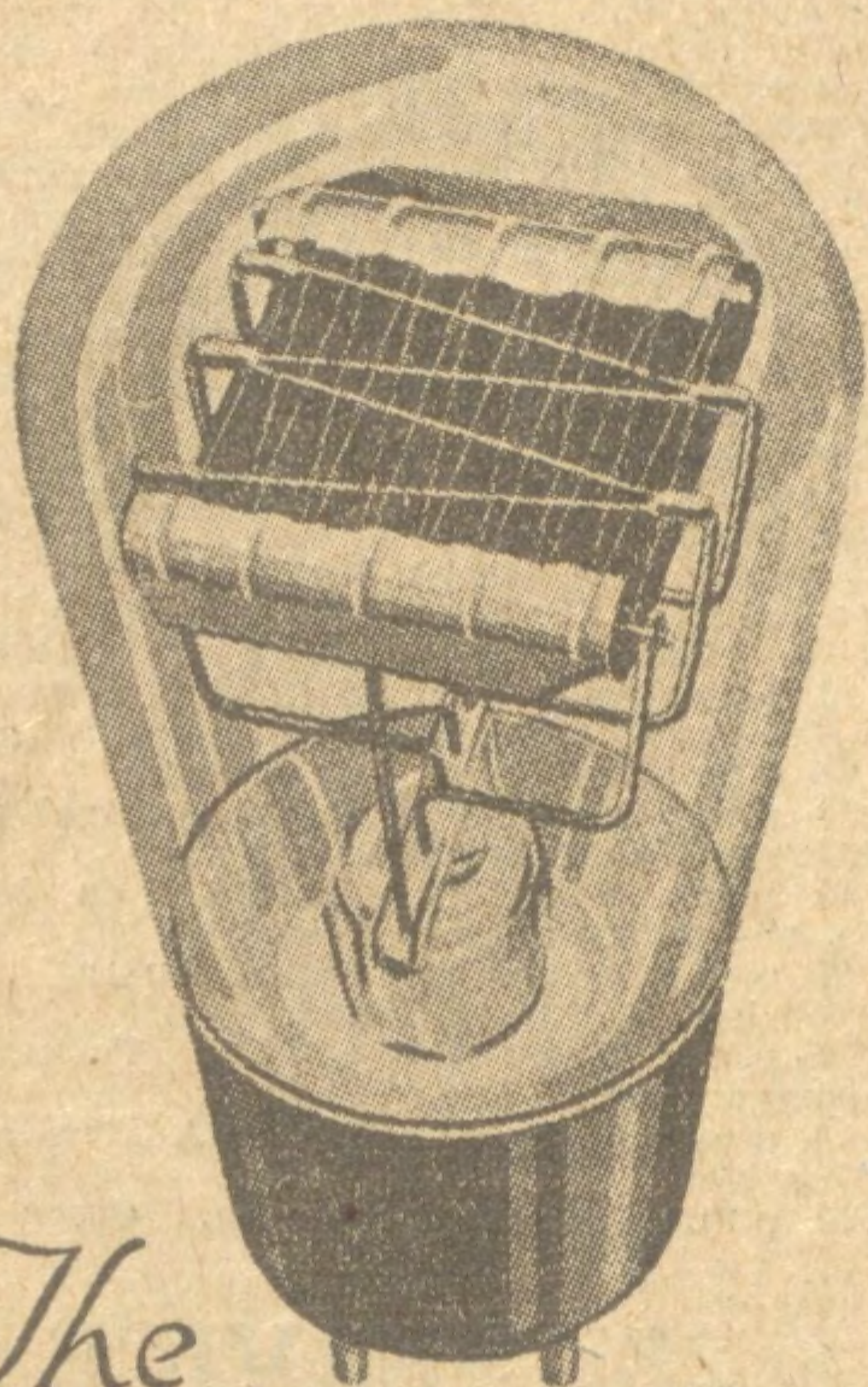
## AFTERNOON SESSION.

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 p.m.: G.P.O. clock and chimes. From the studio, Basil Kirke, "Wandering thro' Coral Isles and Tropic Seas."  
4.14 p.m.: Mary Neal, contralto—  
(a) "Drumadoon" (Sanderson).  
(b) "Robin Adair" (Traditional).  
4.20 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.  
4.30 p.m.: From the studio, cricket scores. Thomas Bevan, baritone.  
4.37 p.m.: Sid Montigue and his ukulele.  
4.44: "Sun" news service.  
4.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.  
5 p.m.: G.P.O. clock and chimes. From the studio, our serial story.  
5.10 p.m.: Mary Neal, contralto—  
(a) "Ettrick" (Peel).  
(b) "A Sheepfold Song" (Ronald).  
5.16 p.m.: Sid Montigue and his ukulele.  
5.22 p.m.: Pianoforte reproduction.  
5.32 p.m.: "Sun" news service.  
5.37 p.m.: Features of the evening's programme.





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THE MASTER VALVE

### EARLY EVENING SESSION.

Announcers: Basil Kirke,  
J. Knight Barnett.

- 5.40 p.m.: Children's session.  
Music and entertainment.  
6 p.m.: Letters and stories.  
6.30 p.m.: "Sun" news and late sporting.  
6.40 p.m.: 2BL Dinner Quartet—  
(a) "Chanson de Printemps" (Gillet).  
(b) "Aubade Florentine" (Mazza).  
(c) "Ballet Egyptien" (Luigini).  
(d) "Barcarolle" (Offenbach).  
(e) "Canzone di Maggio" (Michell).  
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: Mr. G. Vern Barnett.

- 8 p.m.: G.P.O. clock and chimes.  
From the Burnside Presbyterian Orphans' Home, Parramatta, hospital concert party, conducted by Mr. W. E. Lewis.  
9.30 p.m.: From the studio, weather report. Listeners will have an opportunity of hearing some of the successful competitors in the recent Radio Eisteddfod, conducted by the New South Wales Broadcasting Company, Limited.  
9.45 p.m.: Sketches by Montgomery Stuart and Myra Leard.  
10.5 p.m.: "Week by Week," a topical talk by S. H. Bowden.  
10.17 p.m.: Sketches by Montgomery Stuart and Myra Leard.  
10.27 p.m.: Resume of following day's programme.  
10.30 p.m.: National Anthem. Close down.

## 2GB, SYDNEY

Thursday, December 27

- 10.0 a.m.: Music. 10.1 a.m.: Happiness talk, by A. E. Bennett. 10.20 a.m.: Music. 10.30 a.m.: Women's Radio 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, Ltd. 7.15 p.m.: Music. 8.0 p.m.: Violin solos by Mr. Lionel Hargreaves. 8.10 p.m.: Songs by Mr. Sam. H. Harris. 8.20 p.m.: Pianoforte solos by Miss Ada Brook. 8.30 p.m.: Songs by Miss Elsie Luckman. 8.40 p.m.: Dance music. 9.0 p.m.: Weather report and address. 9.15 p.m.: Violin solos by Mr. Lionel Hargreaves. 9.30 p.m.: Songs by Mr. Sam. H. Harris. 9.40 p.m.: Pianoforte solos by Miss Ada Brook. 9.50 p.m.: Songs by Miss Elsie Luckman. 10.0 p.m.: Dance music. 10.30 p.m.: Close down.

## 3LO, MELBOURNE

Thursday, December 27

### 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: Frank Hatherley.

Accompanist: Agnes Fortune.

- 11.0 a.m.: The Strad Trio, "The Serenader" (Beethoven), March-Minuetto, Adagio-Polacco, Andante-Variations. 11.18 a.m.: Lillane Gay, soprano, "Si mes Vers Avaient des Ailes" (Hahn), "Toujours a toi" (Tschalkowsky). 11.25 a.m.: Frank Johnstone, cello, "Memories" (Popper), "Scherzo" (Van Goens). 11.32 a.m.: Cecil Parkes, violin, "Sonata in G Minor" (Tartini). 11.42 a.m.: Lillane Gay, soprano, "Le Nil" (Leroux), "To the Forest" (Tschalkowsky). 11.49 a.m.: The Strad Trio, "Blue Lagoon" (Millocker, Parkes), "Abendlied" (Schumann), "Gavotte."

Louis" (Anon.). 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, transmitted from the King's Theatre, old-time choruses, conducted by Frank Hatherley; Colin Crane (bass-baritone), Freda Treweek (mezzo-soprano), "I've Got a Robe" (Negro Spiritual), "The Blue Alsatian Mountains" (Adams). 1.45 p.m.: Stock Exchange information; meteorological information; weather forecast for Victoria, Tasmania, South Australia, and New South Wales; ocean forecast; river reports; results of Sheffield Shield cricket match, Victoria v. New South Wales, at M.C.C. 1.55 p.m.: Close down.

### AFTERNOON SESSION

Announcer: Frank Hatherley.

Accompanist: Agnes Fortune.

- 2.15 p.m.: The Station Orchestra, suite, "Intermezzi" (Rosse). 2.25 p.m.: Myrtle Walscott (contralto), "Angus MacDonald" (Roedel), "I Lift My Heart to Thee" (Costa). 2.32 p.m.: Tasma Tiernan and Joseph Barrille, cello and flute, "Serenade" (Titl). 2.37 p.m.: Senia Chostakoff (tenor), "Come Back to Sorrento" (de Cutis), Selected. 2.44 p.m.: The Station Orchestra, "Three French Songs" (Bemberg and Debussy). 2.54 p.m.: Keith Desmond, elocutionist, "My Dainty Cigarette" (Campion), "The Oration" (Watson). 3.0 p.m.: Dr. Loftus Hills, "Topics of the Week." 3.15 p.m.: J. Howlett Ross, "Popular Superstitions." 3.30 p.m.: Viva Holgate Clarke, piano, "Sonata in D Minor" (Beethoven), Largo-Allegretto, Adagio-Allegretto. 3.48 p.m.: The Station Orchestra, "Suite of Four" (Saenger). 3.55 p.m.: Myrtle Walscott (contralto), "Lie There My Lute" (MacCunn), "Daffodils From My Garden" (Boanas). 4.2 p.m.: The Station Orchestra, suite, "Cinderella Dances" (Lohr). 4.12 p.m.: Clifford Creighton (baritone), "King Charles" (White), "Two Irish Eyes" (Rawlings). 4.19 p.m.: The Station Orchestra, "A Godard Cycle." 4.30 p.m.: "Herald" news service; Stock Exchange information. During the afternoon results of the Wodonga, Yarra Glen, and Ararat races will be given as they come to hand. Also results of the Sheffield Shield cricket match, South Australia v. Queensland, at Adelaide. 4.45 p.m.: Evensong, transmitted from St. Paul's Cathedral, Melbourne. 5.30 p.m.: Acceptances and barrier positions for the V.R.C. races, to be held on Tuesday, January 1, for the Ascot Park races, on Saturday, December 29, and for the Mentone races on Wednesday, January 2. 5.40 p.m.: Close down.

### EVENING SESSION.

Announcer: Maurice Dudley.

- 6.0 p.m.: "Bobby Bluegum" sends you cheer for birthdays, Christmas, and New Year. 6.25 p.m.: Musical interlude. 6.30 p.m.: "Bobby Bluegum" has some more stories about little sprite "Jinkie" to tell you. 6.45 p.m.: "Bobby Bluegum" will sing you some sleepy songs.

### 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 Company, Ltd. Poultry, grain, hay, straw, jute, dairy produce, potatoes and onions. Market reports of fruit by the Victorian Fruit Merchants' Association. Retail prices. Wholesale prices of fruit by the Wholesale Fruit Merchants' Association. Citrus fruits. 7.30 p.m.: News session. Stumps scores, Sheffield Shield cricket matches, Victoria v. New South Wales, at M.C.C., and South Australia v. Queensland, at Adelaide. 7.43 p.m.: Birthday greetings. 7.45 p.m.: Out of the past. 7.46 p.m.: Margaret Bannerman, now appearing at the King's Theatre, will speak to you from her dressing-room, by permission of J. C. Williamson, Ltd. 8.0 p.m.: A maker of history. 8.1 p.m.: Rod. M'Gregor will speak on "Cricket."



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- 8.15 p.m.: The Radi-o-Aces, "The Loyal Legion" (Sousa), "Ready for the River" (Moret), "That's My Mammy" (Donaldson).
- 8.24 p.m.: Clifford Creighton, baritone, "When the Sergeant Major's on Parade" (Longstaffe).
- 8.27 p.m.: The Radi-o-Aces, "In a Honey-moon Cottage" (Lumsdaine), "Do You" (Plantadosi), "Dear on a Night Like This" (Conrad).
- 8.36 p.m.: Roy Ryan, entertainer, "It's Too Late Now to be Sorry."
- 8.39 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).
- 8.48 p.m.: Constance Flavel, soprano, "Spring the Fiddler" (Baumer).
- 8.51 p.m.: The Radi-o-Aces, "You're a Real Sweetheart" (Friend), "Dusky Stevedore" (Razalf), "Beside a Lazy Stream" (Sempt).
- 9.0 p.m.: Keith Desmond, elocutionist, request item.
- 9.3 p.m.: The Radi-o-Aces, "Cinnamon Cake" (Bernard), "Paradise" (Zamischneck), "Afraid" (Barnie).
- 9.12 p.m.: Clifford Creighton, baritone, "Tally Ho" (Leon).
- 9.15 p.m.: The Radi-o-Aces, "Evening Star" (Turk), "You are Wonderful" (Ash), "Just Like a Melody Out of the Sky" (Donaldson).
- 9.24 p.m.: Roy Ryan, entertainer, will whistle "Bird's-eye View."
- 9.27 p.m.: The Radi-o-Aces, "Chiquita" (Wayne), "Hot Ivories" (Sinatra), "There Ought to be a Law Against That" (Friend).
- 9.36 p.m.: Constance Flavel, soprano, "The Love Pipes of June" (Day). 9.39: The Radi-o-Aces, "Oh Ya Ya" (Frich), "Rain" (Ruby), "Mine, All Mine" (Ruby).
- 9.48 p.m.: Keith Desmond, elocutionist, "Work" (Milton Hayes).
- 9.51 p.m.: The Radi-o-Aces, "Lonesome in the Moonlight" (Russell), "Dream House" (Fox), "Gotta Big Date with a Little Girl" (Tobias).
- 10.0 p.m.: "Argus" news service; British official wireless news from Rugby; meteorological information; announcements.
- 10.15 p.m.: Radi-o-Aces, "Constantinople" (Carlton).
- 10.24 p.m.: Clifford Creighton, baritone, "The Blue Dragoons" (Russell).
- 10.27 p.m.: The Radi-o-Aces, "The Dance of the Blue Danube" (Fisher), "Is It Gonna Be Long" (Whiting), "It Goes Like This" (Caesar).
- 10.36 p.m.: Roy Ryan, entertainer, "Imitations."
- 10.39: The Radi-o-Aces, "Roses of Yesterday" (Berlin), "Lolita" (Stonham), "That's My Weakness Now" (Sempt).
- 10.48 p.m.: Constance Flavel, soprano, "April is a Lady" (Phillips).
- 10.51 p.m.: The Radi-o-Aces, "Get Out and Get Under the Moon" (Tobias), "In a Bamboo Garden" (Donaldson), "Anything You Say" (Donaldson).
- 11.0 p.m.: Our great thought.
- 11.1 p.m.: The Radi-o-Aces, "Alabama Stamp" (Creamer), "One Alone" (Romberg), "The Desert Song" (Romberg), "Wabaly Walk" (Green), "Because My Baby Don't Mean Maybe Now" (Donaldson), "Chloe" (Moret), "Good-night Waltz" (Bibo), "Good-night song."
- 11.40 p.m.: God Save the King.

## 3AR, MELBOURNE

Thursday, December 27

### MORNING NEWS SESSION.

10 a.m.: G.P.O. clock says "Ten." 10.1 a.m.: "Age" news service. 10.25 a.m.: "Age" shipping reports; ocean forecast. 10.30 a.m.: Mail notices; express train information. 10.59 a.m.: Weather forecast.

### MORNING MUSICAL SESSION.

11 a.m.: The 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); "Can't You Hear Me Say I Love You" (Brown). 11.20 a.m.: British official wireless; announcements. 11.30 a.m.: Cricket results. 1.15 p.m.: Close down.

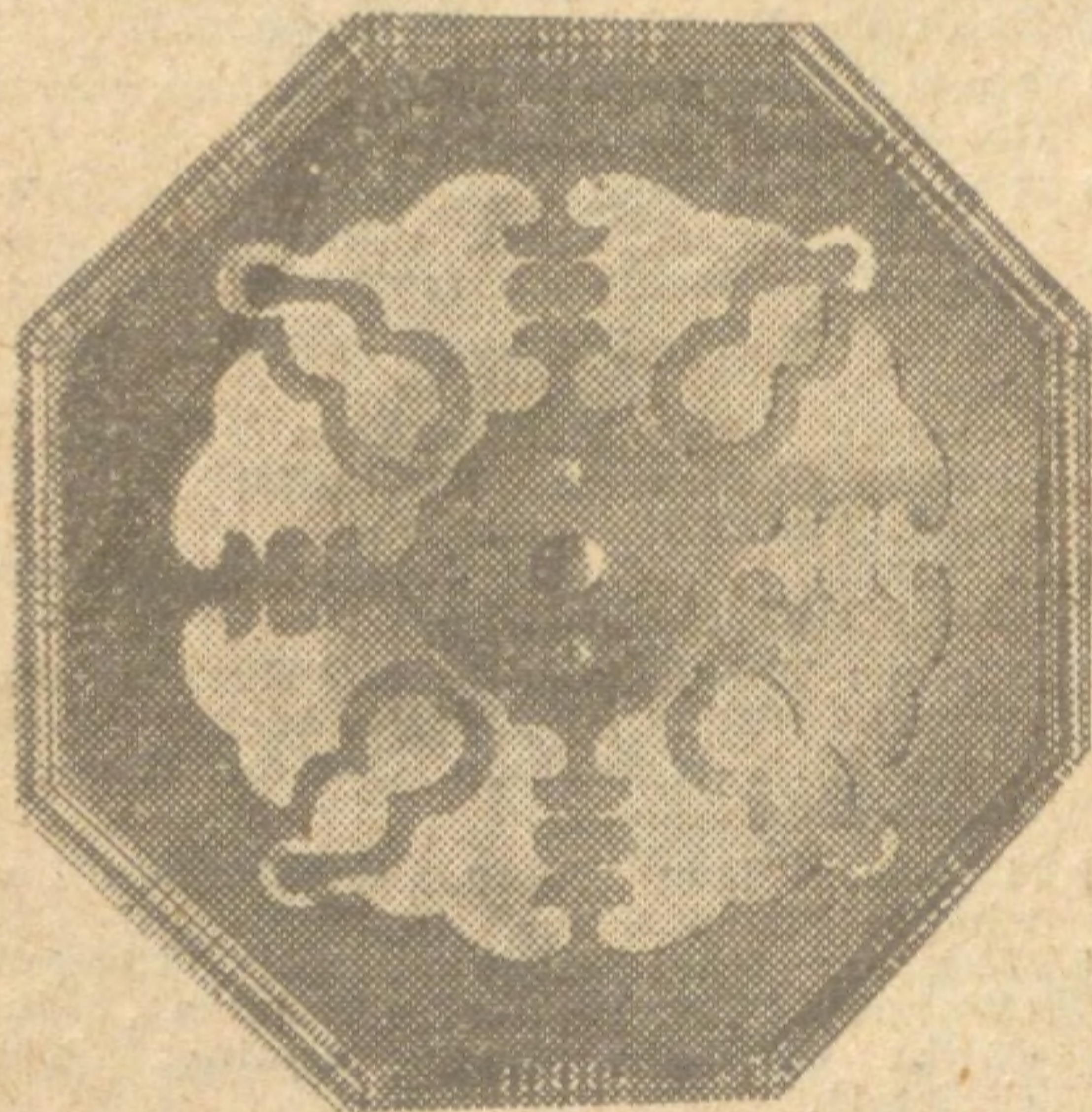
### EVENING SESSION.

6 p.m.: Musical memoirs of the Master Spirits. 7 p.m.: "Herald" news service.



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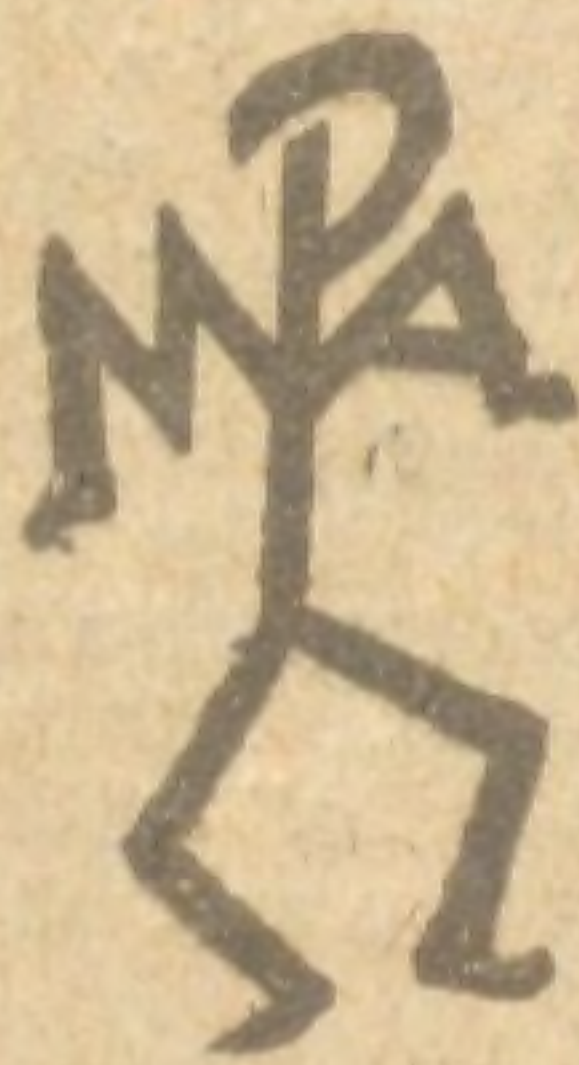
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7.10 p.m.: Musical memoirs (continued).  
7.50 p.m.: Cricket results.

### NIGHT SESSION.

Announcer: John O'Connor.

Accompanist: Reg. Brown.

- 8 p.m.: J. Howlett Ross—  
"Christmas Outback."  
8.15 p.m.: E. A. Gollan, of the Y.M.C.A. Canoe Club and Victorian Canoe Association, will speak on Canoeing as a Sport and Recreation—  
"At Home on the Water With a Canoe."  
8.30 p.m.: The Station orchestra—  
"Symphony Op. 21" (Beethoven).  
8.45 p.m.: Grace Evans, soprano—  
"The Island" (Rachmaninoff).  
"The Soldier's Bride" (Rachmaninoff).  
8.52 p.m.: The Station orchestra—  
Selection, "Sybil" (Jacobi).  
9 p.m.: Senia Chostiakoff, tenor—  
"Autumn Asters."  
"The Song of the Volga Boatmen."  
9.9 p.m.: Transmission from Auburn Methodist Church.  
J. Sutton Crow, organ solo—  
"Andante in G" (Wesley).  
Stella Dredge, soprano—  
"A Brown Bird Singing" (Wood).  
Marjorie Robinson and Sybil Shaw—  
Vocal duet, "Come On, My Trueness Re-lying" (Gluck).  
J. Sutton Crow, organ solo—  
"Friere a Notre Dame" (Boellman).  
Sybil Shaw, contralto—  
"Abide With Me" (Liddle).  
Stella Dredge, Marjorie Robinson, and Sybil Shaw—  
Vocal trio, "Sweet Affection."  
9.39 p.m.: The Station orchestra—  
"Musical Gems" (Tschalkowsky).  
9.49 p.m.: Grace Evans, soprano—  
"The Rose Has Charmed the Nightingale." Request item.  
9.56 p.m.: Station orchestra—  
"Moszkowskiana" (Moszkowski).  
10.6 p.m.: Senia Chostiakoff, tenor—  
"The Light Shades."  
"Beautiful Eyes."  
10.13 p.m.: The Station orchestra—  
"Melodie" (Tschalkowsky).  
"Gondoliera" (Moszkowski).  
10.20 p.m.: "Age" news service, exclusive to 3AR.  
10.30 p.m.: Our Australian good-night quotation.

## 4QG, BRISBANE

Thursday, December 27

### EARLY MORNING SESSION.

Announcer: J. Tyson.

- 7.43 a.m.: From the Observatory—Time signals. 7.45 a.m.: News service supplied by courtesy of "The Daily Mail." 8 a.m.: Some electric records. 8.15 a.m.: News service supplied by courtesy of "The Courier." 8.30 a.m.: Close down.

### MORNING SESSION.

Announcer: Rita M'Auliffe.

- 11 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 noon: Close down.

### MID-DAY SESSION.

Announcer: R. Wight.

- 1 p.m.: Market reports and weather information. 1.15 p.m.: From the Constitutional Club—A lunch-hour address. 2 p.m.: Close down.

### AFTERNOON SESSION.

Announcer: H. Humphreys.

- 3 p.m.: From the Studio—A programme of electrically-reproduced records. 3.30 p.m.: Mail train running times. 4.15 p.m.: This afternoon's news. 4.30 p.m.: Close down.

### EARLY EVENING SESSION.

Announcer: R. Wight.

- 6 p.m.: From the Studio—Mail train running times; mail information; shipping news. 6.5 p.m.: From the Paris Cafe—Dinner music. 6.25 p.m.: From the Studio—Commercial announcements. 6.30 p.m.: Bedtime stories conducted by "The Sandman." 7 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—"A Talk on Books," by Mr. J. Doyle (M'Leod's).

### NIGHT SESSION.

Announcer: A. V. James.

- 8 p.m.: From the Studio—  
A programme arranged by Mr. Sydney May:—  
Linda Buchanan (contralto)—  
"The Country Dance" (Brahe).  
Jill Manners (soprano) and Jack Atkinson (baritone)—  
Vocal duet, "Soon as the Mountain Summits" (Cowen).  
John Steele (tenor)—  
"The English Rose" (German).  
8.30 p.m.: "Gargoyle" will talk to motorists—"Air Cleaners and Tractor Carburetion."  
Part song—  
Cycle of Old English Ballads.  
Pat M'Onigly (soprano)—  
"My Dreamland Rose" (Phillips).  
Jack Land (tenor)—  
"Heavenly Aida" (Verdi).  
Jill Manners (soprano)—  
"Heigh-ho" (German).  
Part song—  
"Blue Danube Waltzes" (Strauss).  
Vera Walker (contralto)—  
"Love's Old Sweet Song" (Molloy).  
Jack Atkinson (baritone)—  
"Vorrei" (Tosti).  
John Steel (tenor)—  
"I Seek for Thee in Every Flower" (Ganz).  
Sextette—"What From Vengeance Yet Restrains Me."  
9 p.m.: Metropolitan weather forecast.  
Vera Parker (contralto)—  
"I Heard You Go By" (Wood).  
Pat M'Onigly (soprano)—  
"Bubble Song"—(Friml).  
Cycle of three American Airs.  
Linda Buchanan (contralto) and Jack Land (tenor)—  
"Close to Your Heart" (Charlton).  
Jack Atkinson (baritone)—  
"Sanctuary" (Besley).  
Linda Buchanan (contralto)—  
"Saint Nicholas Day in the Morning" (Martin).  
Jill Manners (soprano)—  
"Nightingale in June" (Sanderson).  
John Steele (tenor)—  
"Speak" (Tosti).  
Part song—"The Frog" (Newton).  
Vera Parker (contralto)—  
"Coming Home" (Willeby).  
Jack Land (tenor)—  
"The Bloom is on the Rye" (Bishop).  
Pat M'Onigly (soprano) and Jack Atkinson (baritone)—Vocal duet—"Something" (Friml).  
Linda Buchanan (contralto)—  
"Good Morning Brother Sunshine" (Lehmann).  
Part song—"My Old Kentucky Home."  
10 p.m.: "The Daily Mail" news, "The Courier" news, weather news. Close down.



**7ZL, HOBART****Thursday, December 27**

MIDDAY SESSION.

Announcer: Jack Broadbent.

11.30 a.m.: Monsieur Sonora, musical selections. 11.34 a.m.: Weather information. 11.35 p.m.: Monsieur Sonora, musical selections. 11.55 a.m.: Tasmanian station's 9 a.m. weather report. 12 noon: G.P.O. clock chimes the hour. 12.1 p.m.: Shipping information; ships within wireless range; mail notices; housewives' guide. 12.8 p.m.: Monsieur Sonora, musical selections. 12.11 p.m.: British official wireless news. 12.20 p.m.: Monsieur Sonora, musical selections. 12.29 p.m.: Announcements. 12.33 p.m.: Monsieur Sonora, musical selections. 12.55 p.m.: "Mercury" news service; produce sales, held at railway. 1.10 p.m.: Monsieur Sonora, musical selections. 1.30 p.m.: Close down.

AFTERNOON SESSION.

Announcer: Jack Broadbent.

3.0 p.m.: G.P.O. clock chimes the hour. 3.1 p.m.: Monsieur Sonora, musical selections. 3.4 p.m.: Weather information. 3.5 p.m.: Monsieur Sonora, musical selections. 3.15 p.m.: A studio performance, by Patti Pianola, with interludes by Mlle. Columbia. Patti Pianola, fox-trot, "Kissing Time," selection Wodehouse). Cherniavsky Trio, "Scherzo at the Brook." Patti Pianola march, "Pierette." Grenadier Guards' Band, "Tom Jones." Patti Pianola, fox-trot, "Spanish Dance" (Moszkowski). Royal Philharmonic Orchestra, "Don Juan," parts 1 and 2 ((Strauss). Patti Pianola, fox-trot, "Remembrance" (Moszkowski). Johann Strauss and Symphony Orchestra, selection, "The Gipsy Baron," parts 1 and 2. Patti Pianola, waltz, "A Waltz Dream" (Strauss). 4.15 p.m.: Child welfare; a representative of the Child Welfare Association will give a talk on "Summer Complaints." 4.30 p.m.: Close down. During the afternoon progress results will be given of the tennis match, England v. Australia, at the Sandy Bay lawn tennis courts, also north-west championships (tennis).

EARLY EVENING SESSION.

Announcer: Jack Broadbent.

6.15 p.m.: Mlle. Columbia broadcasts. 6.45 p.m.: "The Story Lady" will tell the children a story. 6.55 p.m.: Molly Hall, elocutionist, "Foolish Questions," "Wheels of Time." 7.0 p.m.: Answers to letters and birthday greetings, by Uncle David. 7.5: Mlle. Columbia broadcasts. 7.15 p.m.: News session; "Mercury" special Tasmanian news service; railway auction produce sales, held at railway; weather information; Hobart Stock Exchange.

EVENING SESSION.

7.30 p.m.: "Come to Tasmania"—H. C. Smith will speak under the auspices of the "Come to Tasmania" Organisation, on "Snug Regatta Held at Easter." 7.45 p.m.: A. Sangwell, under the auspices of the 7ZL "Learn to Swim" Week, will speak on "Teaching the Children to Swim." 8 p.m.: G.P.O. clock chimes the hour. 8.6 p.m.: Monsieur Sonora, musical selections. 8.15 p.m.: From the studio, 7ZL community singing—Leila Read and orchestra, "Selected." 8.20 p.m.: All, "Let the Rest of the World Go By." 8.23 p.m.: Duet, Mary Green (soprano) and Rene Dyer (contralto), "When Song Is Sweet." 8.26 p.m.: All, "My Bonnie Is over the Ocean." 8.29 p.m.: Ena Twibell (violin solo), "Swing Song." 8.34 p.m.: Rene Dyer (contralto), "Lackaday." 8.37 p.m.: All, "Drink to Me Only." 8.40 p.m.: Mary Green (soprano), "They Say." 8.43 p.m.: All, "Waltzing Matilda." 8.46 p.m.: Ena Twibell (violin solo), "Rindino." 8.51 p.m.: All, "Come, All Ye Faithful." 8.54 p.m.: Duet, Mary Green (soprano) and Rene Dyer (contralto), "In the Dusk of the Twilight." 8.57 p.m.: All, "When Irish Eyes Are Smiling." 9 p.m.: Rene Dyer (Contralto), "Lilac Tree." 9.3 p.m.: All, "On the Road to Anywhere." 9.6 p.m.: Mary Green, (soprano), "Across the Blue Sea." 9.9 p.m.: The Royal Autocar Club of Tasmania safety message. "Cheerio's to friends both far and near." 9.12 p.m.: All, "Auld Lang Syne." 9.15 p.m.: Mlle. Columbia broadcasts. 9.50 p.m.: News session—"Mercury" special Tasmanian news service; British official wireless news; Tasmanian district weather report. 10 p.m.: G.P.O. clock chimes the hour. 10.1 p.m.: Our Tasmanian good-night thought is "Discretion in speech is more than eloquence." 10.2 p.m.: "God Save the King." Close down.

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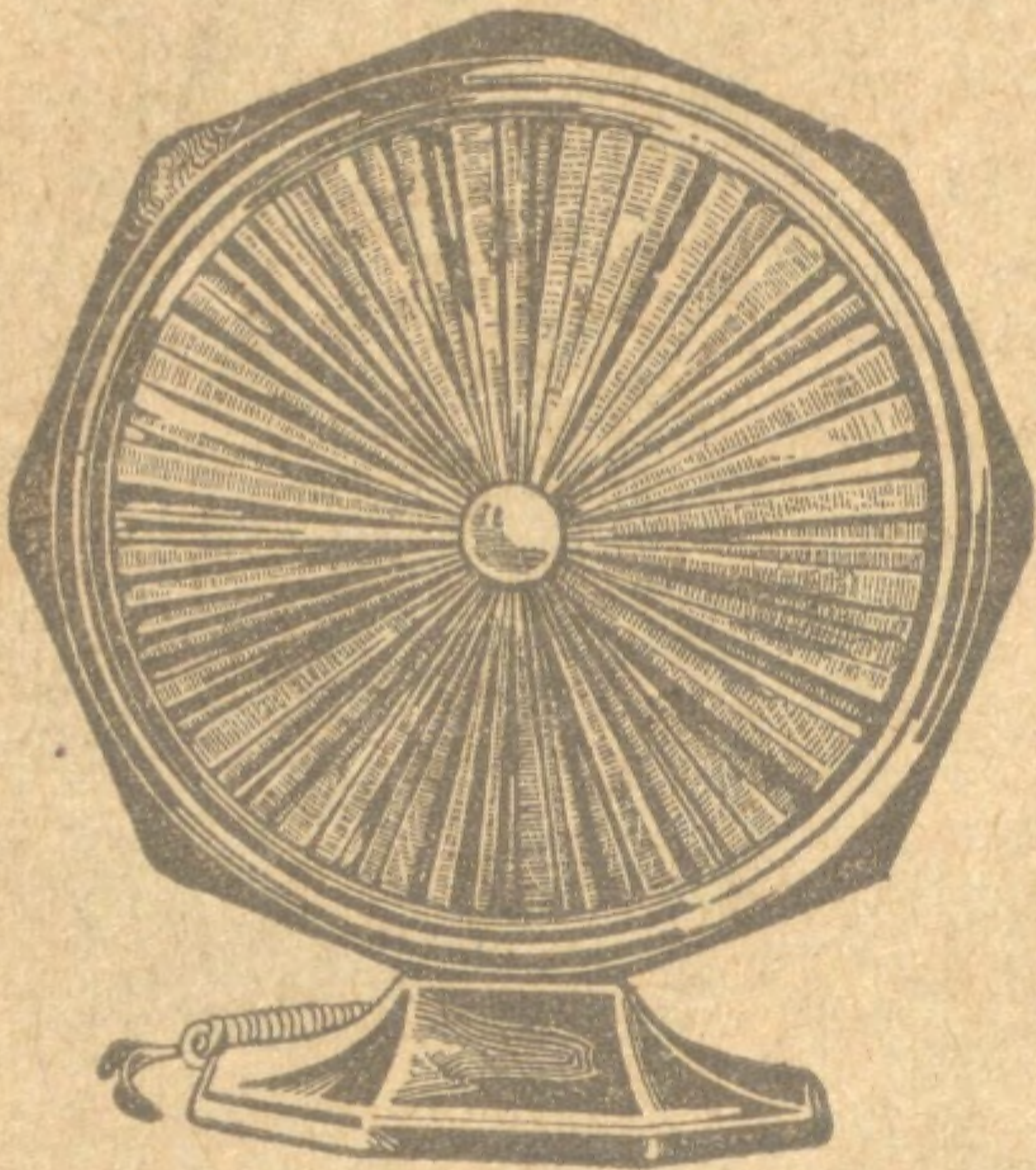
Hobart: 36 Argyle Street.

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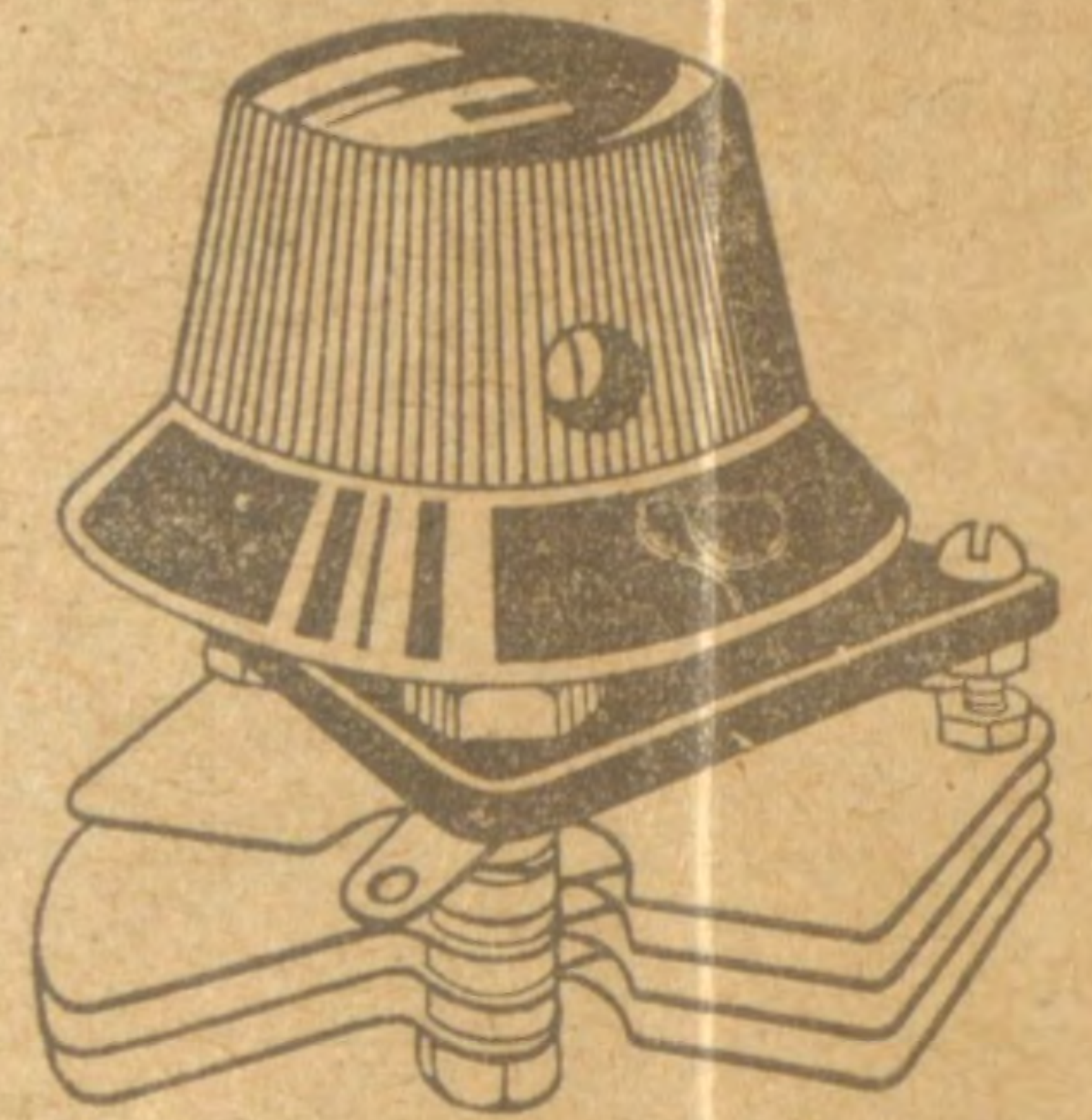
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## Wetless Quality Components

"WIRELESS WEEKLY" readers will frequently see reference to many components manufactured by Mr. J. Wetless, 28 King Street, Rockdale, Sydney. They find a ready use in the homes of thousands of constructors of wireless receivers, and have given such satisfaction as to produce many enthusiastic endorsements on the part of the users. The Wetless Reinartz tuner was one of the first procurable in Australia in connection with this now famous circuit. It is of low loss construction, yet robustly designed, and is air wound with green silk-covered wire, making it very attractive in appearance. The moulded Bakelite straps contain a minimum of dielectric, and when used in the Reinartz circuit this tuner is very selective. Many modern circuits have been tested recently with the Wetless Standard Browning Drake kit in the "Wireless Weekly" test room, and we find that this coil kit is particularly suitable for those who wish to use a tuned radio frequency amplifier with a regenerative detector. Many thousands of these kits are now in use. The neutrodyne will remain a very popular circuit for a long time yet, and for those who desire a sensitive and powerful neutrodyne receiver, the Wetless kit caters well. Recently the Midget short wave screen grid receiver was described. The Midget condensers used for the necessarily fine tuning of the high frequencies were Wetless midget con-



densers are space wound, and enclosed in a well-finished gilt screen. They may be readily adapted to many of the more modern circuits recently described in "Wireless Weekly."

Last, but not least, are the fixed capacity condensers manufactured by this enterprising firm. These condensers have been almost exclusively built into receivers described in the technical columns of "Wireless Weekly," and in every case we found them to be accurate with regard to stated capacity, and capable of standing the highest voltage one would use in the experimenter's workshop.

### Creamy Creek

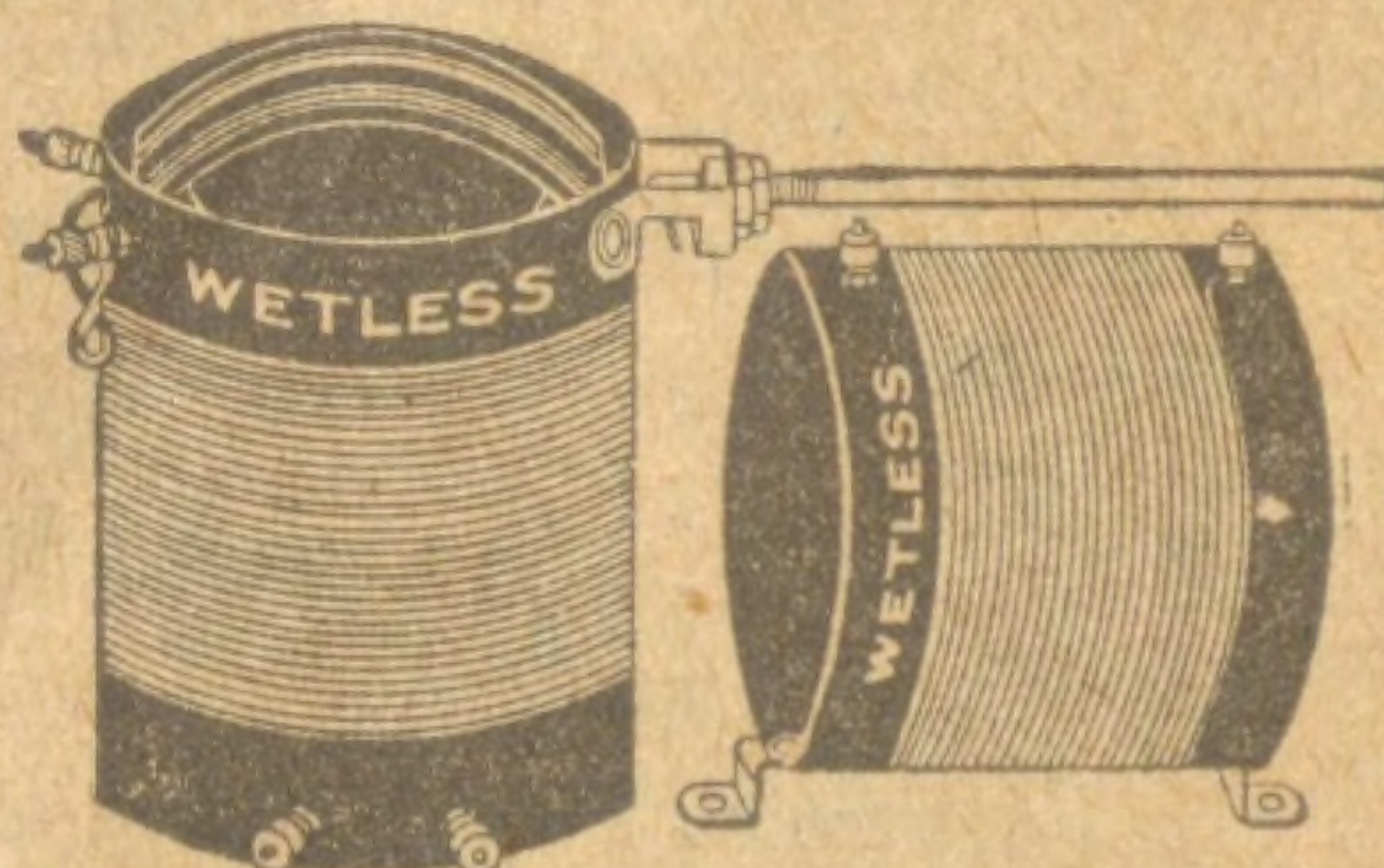
CHRONICLES OF CREAMY CREEK, told by the Bush Parson, are without doubt the most amusing series of talks ever arranged at 2FC. The Bush Parson has a fund of humorous anecdote, and listeners will enjoy the treat he has prepared for them on the evening of December 26.

### Studio Atmosphere

THE hot night air hung heavily about the 2BL studios, and the eight o'clock orchestra was coming through from King's Cross. Suddenly Miss Dorothy Dewar slipped from the chair to which she had been somewhat precariously attached and broke the awful silence.

"I say, aren't you from 'Wireless Weekly'?" We admitted it. "Well, why can't you give me a par?" asked Miss Dorothy Dewar. "Can you see any reason why we shouldn't give you a par?" we asked. "None in the wide, wide world," answered Miss Dewar with alacrity.

We took out our note-book and prepared for action. We never could resist a rich contralto. But Miss Dewar was hurrying into the studio. "Got to rehearse for to-morrow night," she explained. "Come in here, and I'll talk to you later." So we went in there, and sat down to listen while Miss Dorothy Dewar and Mr. Jack Barnett rehearsed for to-morrow night.



BROWNING - DRAKE

densers. They are useful for many purposes, such as neutralising, balancing, and are smooth running with a one hole fixing. The letters received in daily correspondence show that thousands of readers are using the Wetless solodyne coil kits in that successful circuit, and that they have the quality of matching as perfectly as possible, which is a desirable feature of the solodyne. These solodyne



"Tiddely um teum, pom," hummed Miss Dewar. "You come in there, Jack." They went on through several pieces, Miss Dewar remarking between choruses on the terrible difficulty of getting really good duets these days.

At last, while Mr. Jack Barnett hunted about for the next one, Miss Dewar professed herself ready to give information. What did we want to know? We suggested a little history. "Well," said Miss Dewar, "I'm now playing lead in 'Bubbles' at the Empire, and I'm opening at the Regent in a fortnight's time, and last year I played Principal Boy in 'Mother Goose,' and the year before that . . . Do you want any more?" "There's such a thing as going too far," we murmured. "How long have you been broadcasting, Miss Dewar?" "I was with 2FC for two and a half years," she replied, "and . . .," but Mr. Barnett had just found another one, so she went over to the piano, and smiled at us very sweetly and coyly while he asked, with musical honors, "Has she the lips that the boys adore?" Mr. Vern Barnett entered in time to join in the entrancing chorus of "There's gonna be a row in our 'ouse," which certainly is the best introduction to a battle we have heard for a long time.

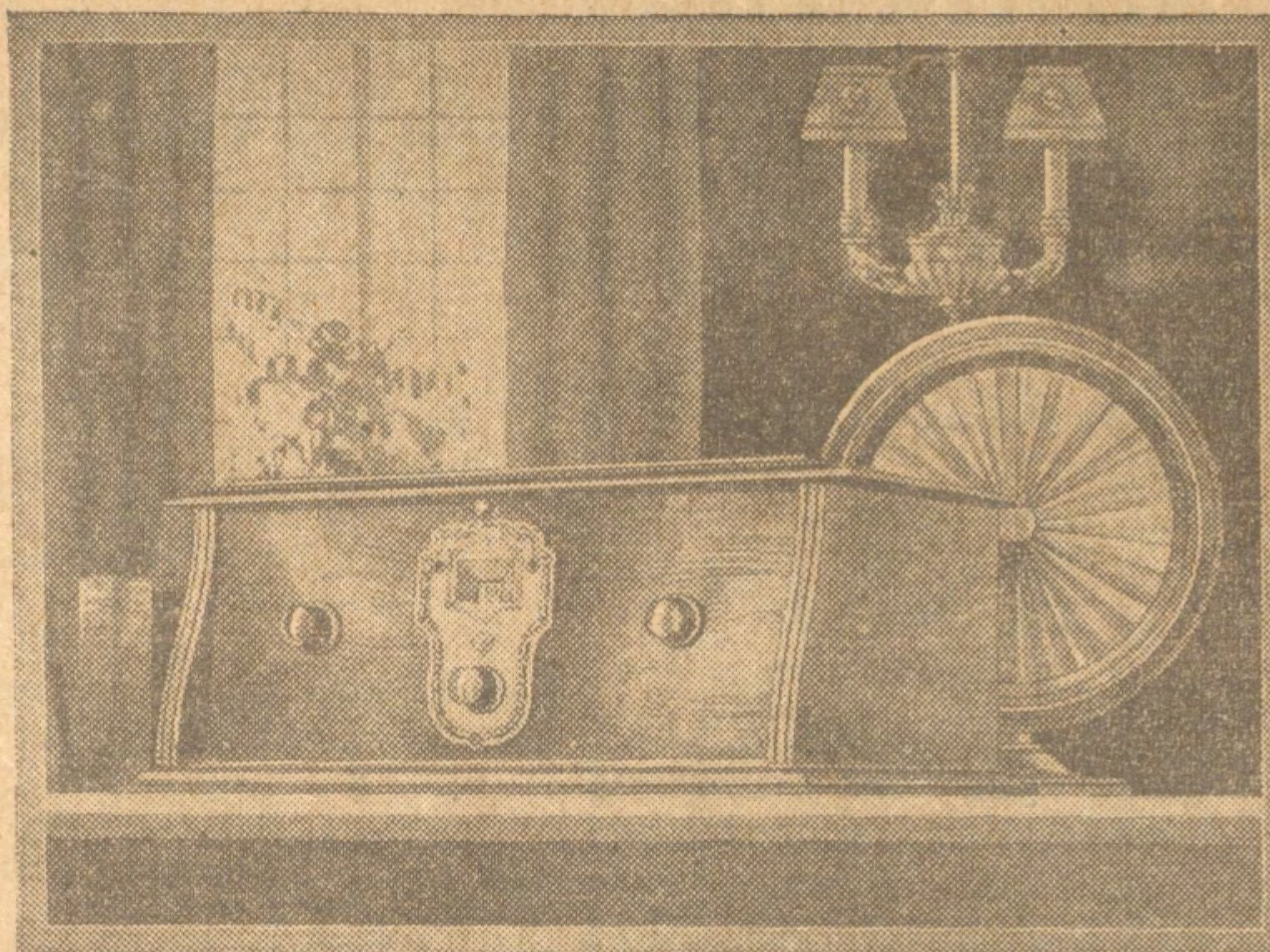
This concluded, we made one last, valiant effort to complete the interview. "And what have you done during your two and a half years at 2FC, Miss Dewar?" we asked. "Everything," was the reply. "I've been in most of the revues—the 'Four Bright Spirits,' Charles Laurence's 'Wits'—in fact, I've done everything but polish the kitchen stove."

She leaned forward anxiously as we wrote down the last piece of information. "Hey, you're not going to put the kitchen stove in!" she exclaimed. We promised not to; but we forgot, and it just slipped in; so we apologise. Indeed, we were just about to cross the offending item from our note-book when Mr. Vern Barnett interrupted us by announcing "Brandy and Absinthe!" His only reply to our eager glances was the explanation, "The Two Tonics."

\* \* \*

### COMPETITION RESULTS

THE popular musical competition recently conducted by Miss Vina de Loitte at 2BL, in which listeners were asked to name the comic operas from which various excerpts were played, resulted in a win for Mr. Leigh Riley, of the Bank of New South Wales, Sydney. The prize was a Gilbert and Sullivan score, and Mr. Riley selected "Yeomen of the Guard."



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### RADIO SET ANALYZER

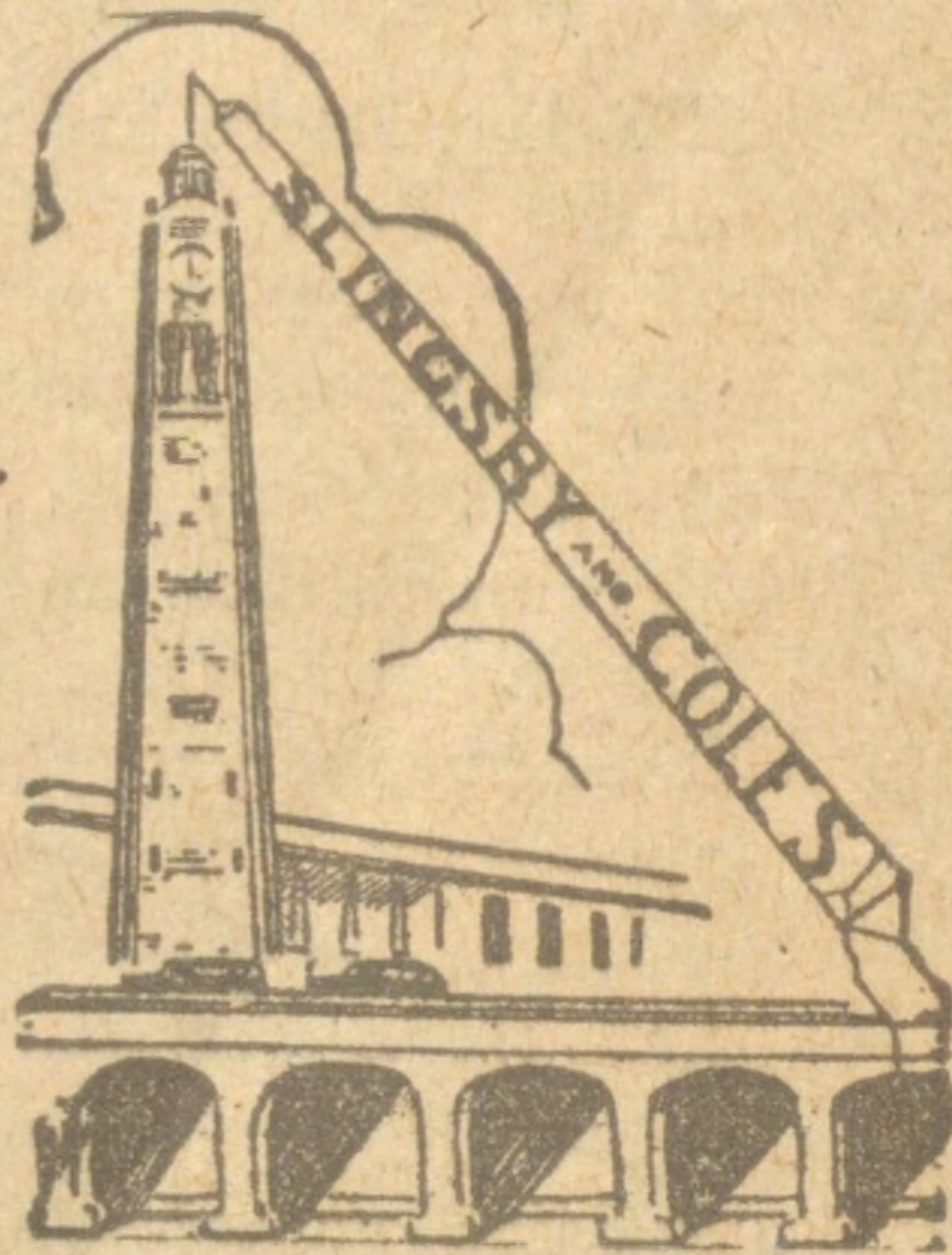
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# The WIRELESS WEEKLY

# RADIO INFORMATION

# Service

Readers' queries are answered here by our trouble-finding expert, under the direction of the Associate Editors, Mr. Ray Allsop and Mr. Don. B. Knock. 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 and 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.

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

W.D. (Rockdale): "Being desirous of building the 'All Empire' short-wave receiver, I should be pleased if you would advise me of the date the issue containing this receiver was published."

Answer: The "All Empire" short-wave receiver was published in "Radio" for June, 1928. Regret there are no copies left. Some of our readers may be able to oblige.

H.S.M. (Ulamambri): (1) "I am constructing the R.F. 'booster' unit described in 'Wireless Weekly' of July 6 last. Will you please tell me what the inductance of the A.W.A. super-audio-choke should be?"

Answer: The choke should be one of 30 Henrys.

(2) "What type of valve should I use in the unit, using a PM3 in the present detector stage in my receiver?"

Answer: Use another PM3.

(3) "Will No. 36 D.S.C. wire do in H&u of 37?"

Answer: Yes.

H.S. (Wongarbon): "Many thanks for your prompt reply to my queries re the 'All Empire' receiver, and your suggestion re faulty choke proved correct, although it seemed to test O.K. However, I replaced it, and the set is now going O.K. on all but the 20-metre band. With the other two coils the set works well enough, and the oscillation is all that can be desired—and there are no dead spots. I don't mind telling you I was astounded at the punch this receiver delivered on overseas S.W. stations. I find the tuning very simple, and was also surprised at the absolute lack of hand capacity which is usually so noticeable with

S.W. sets. It is all you claim for it and more, but I am still puzzled why it will not oscillate with No. 1 coil of the Radiokes kit. Could you offer any further suggestions? The R.F. valve is amplifying O.K., but the dial setting does not nearly synchronise with the detector. Still I do not think the results are in any way impaired thereby. If there are any further suggestions you could offer re the question of non-oscillation on the 20-metre band I would deem it a favor, indeed."

Answer: Increase the R.F. coil by one turn. This should fix you O.K. for the 20-metre band. Thanks for your kind remarks. We appreciate your appreciation!

I.K.M. (Purlewaugh): "I have built a three-valve receiver (S.W.), and find it very unstable. I have shielded the panel, but set oscillates when I touch the 'phone cords. Tuning is much easier when I firmly grasp the 'phone cords. How can I eliminate this trouble?"

Answer: First try placing a fixed condenser of .002 mfd. across the 'phone terminals, and if this does not eliminate the trouble wind tinfoil all round the cord, covering this over with insulation tape. In the event of a slight trace of the trouble still being present, try earthing one end of the tinfoil.

W.J. (Wellington): (1) "I have back numbers of 'Wireless Weekly' from August 26, 1927. Readers forwarding stamps for postage may have any of these copies. You recently published this information, but had the date wrong. I had enquiries for the back numbers before I got my issue, so it shows that readers are quick off the mark for something good. 'Wireless Weekly' is! My address is: Mr. W. Johnson, P.O. Box 22, Wellington, New Zealand."

Answer: Sorry we had the date wrong. Mr. Johnson; thanks for your kind offer.

(2) "I have purchased three 609, one 615, and one 605 Phillip valves. As I do not know which is the detector, R.F.—or audio socket—would you please tell me? I have marked diagram 1, 2, 3, 4, and 5."

Answer: Usually the first two sockets on the left of the receiver are for the R.F. valves. Next comes the detector, and this is followed by the two audio stages. Use the 609 as a first-stage audio, i.e., in the socket marked 4. Valve 605 is a loud-speaker valve, and should be used in socket 5. The 615 is a special detector, and should, therefore, be used in socket 3. Presume the remaining two 609 valves are for use in the R.F. stages, i.e., sockets 1 and 2, but you should have used a 635 or 630.

R.T.C.H. (Cooma): (1) "Please forward a copy of 'W.W.' dated August 12, 1927. If there are no copies left, please send me one containing a good crystal circuit."

Answer: Build the circuit that appeared in these columns last issue. Regret we have no copies of the number you require.

**GENERAL.**—No letters will be answered by post in spite of the fact that stamps may be enclosed. Many readers send stamps, postal notes, money-orders, and the like, in payment for our advice. This is entirely unnecessary, as this service is free to our readers. Coupons will appear regularly in this paper, and they must be forwarded with each batch of queries. Each letter must not contain more than four queries. Where specially required, we shall be pleased to publish small diagrams and illustrations.

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Please answer the accompanying queries in the  
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and benefit. The Queries' Service is intended to be useful. It is not here to take up space.

J.L.S. (Young): (1) "Is tinfoil any better than silver-foil for fixed condensers, and why is tinfoil used instead of silver-foil?"

Answer: Tinfoil is the correct name—there is no such regular product as silver-foil.

(2) "In the fixed condenser does the thickness of the tinfoil make any difference to the capacity?"

Answer: For ordinary purposes, no, but if your calculations are to be mathematically correct there will be an increase in capacity when the tinfoil is of thicker gauge. This is also the case with the insulating substance, whether this dielectric is mica, air, wood, or any other insulator. The capacity of the condenser will also depend on the type of dielectric used. We wish you success with your experiments.

A.E.C. (Whale Beach): "Owners of the Peridyne Set can make a wonderful tone transformation to this popular set by removing the 500,000 ohms resistance or modulator from its present position, and shunting it directly across the secondary of the first transformer. In this position it acts as a perfect volume modulator, increases selectivity, entirely eliminates distortion at any voltage, giving a soft, refined tone, so natural as to be almost weird in effect. I might mention that I have removed the crystal detector, and replaced it with a grid-leak of medium resistance. A few experiments in this part of the set will prove beyond any doubt that the Peridyne is better by far in any respect—without the crystal. I use one bank of batteries of 70-80 volts to supply both radio and audio stages with a bias of 3 to 4½ volts respectively. A separate 36-volt battery supplies the detector. The negative terminals of both batteries are connected together. An increase of voltage and bias increases volume slightly, but decreases quality greatly; 80 volts gives volume quite equal to the original production; 70 volts, with a bias of 3 volts gives better tone-quality. This would vary, of course, with the class of valves used. In my set I am using a Radiotron detector, UX200A. The rest are a correct range of Cossor valves. All the high-class dull emitter valves seem to give equally good results, except the detector, where a bright emitter undoubtedly gives best results. The change can be made in less than an hour, and will well repay anyone who is seeking better tone-reception."

Answer: Thank you very much, Mr. C., although, of course, the set is no longer the Peridyne.

A.P. (Bulli): "Will you please give me a simple wave trap circuit, as I suffer from interference when tuning in 3LO."

Answer: The circuit appears in these columns. Wind 100 turns of 24 gauge D.C.C. wire on a two-inch former, and tap at the 70th, 80th, and 90th turns. Use a variable condenser of .00035 mfd. Connect A to your aerial, and E to earth.

## CABINETS

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Bo Brian (Alexandria).—(1) "I am sending you a circuit of a combination transmitter, and receiver upon which I should like some advice. Is the circuit suitable for wave-lengths between 26-400 metres—both for reception and transmission?"

Answer: You have not shown capacities of condensers which you propose using. However, using the coil shown, if wound on a three-inch former, and used with .0005 or .001 variable condensers, the transmitter will cover from, approximately, 200 to 500 metres. However, it is illegal for you to transmit above 250 metres—even though you have your license. Using the coil shown, you would not be able to tune below 200 metres.

(2) "Is the wavelength governed by the coil used?"

Answer: Not necessarily. Wavelength is governed by numerous factors, chief among them being capacity. Therefore, wavelength will also depend on the capacity of condensers used, on the size of former used for the inductance, and so on.

(3) "What valve could you recommend for use in the circuit as a transmitter? Also what is the range of the transmitter, and is it suitable for use on telephony with a gramophone pick-up?"

Answer: The range of the transmitter is about five miles, depending on the efficiency of the finished transmitter, and quality parts used, etc. A 2LO transmitting valve would be suitable, but if desired a valve of the receiving type, such as a 201A may be used.

### BRIEF REPLIES.

J.T.S. (Kogarah): We shall be pleased to receive a copy of the blue-print you mention. Thanks in anticipation.

A.C.C. (Cooroy): Add another stage of radio-frequency amplification. The R.F. Booster Unit, recently published in this paper will suit your requirements.

J.T.C. (Bundaberg): Build the Peridyne. This is a selective receiver and works hard for "DX."

G.R.K. (Ashfield): As you do not mention the type of valve you intend using afraid I cannot advise you re the amperites. The type you have purchased is suitable for a 4 or 4½ volt valve taking .125 amperes, such as the UX-120 or OX-220. Your method of wiring is O.K. Provided you have made a solid job of the eyelet, this will be in order. Suggest a Phillips Cone Speaker. Connect battery leads as follows:—On the accumulator you will find one terminal marked red and the other blue. Connect the red terminal (which is positive) to A plus, and join A minus to the blue terminal, which is the negative terminal of your accumulator. On the "B" battery you will find a positive and a negative terminal. Connect B negative to its proper terminal. The same applies to the "C" battery. B plus 1 is the detector lead, and should be supplied with approximately 30 volts. B2 is the B plus amplifier lead, and should be connected to the maximum B plus terminal. C1 is supplied with negative current from the C battery, say 4½ volts, whilst C2 should be supplied with 6 to 9 volts negative grid bias. All the parts you mention may be substituted.

G.P. (Crow's Nest): Use a B406 in the first amplifying stage, and a B409 in the last stage of your Marco Four. Phillips transformers are O.K. We do not reply by post.

J.E. (Corrimal): Use an A409 in the first stage, and an A406 in the second stage of your Harkness Reflex. Dry batteries may be used to supply the filaments. (2) A UV-199 valve may be used in the Filadyne One Valver.

"Tam" (Wollongong): Reverse the connections to the reaction coil. If receiver does not then oscillate, place a fixed condenser of .001 mfd. across the primary of the first audio transformer.

B.G. (Mudgee): The parts mentioned will be O.K. with the exception of the first stage of A.F. valve. Use a B406 in this stage.

A.M.E. (Sydney): An earth wire consists of a connection to some conductive matter, which is either directly or indirectly making contact with earth. A water-pipe may be used. Sometimes a wire which has no contact with earth is connected to the earth terminal. This is termed a counterpoise. A bed-mattress may be used as a counterpoise for an indoor aerial.

T.E. (Greenwich): You have probably burnt out the filaments of your valves. You should not connect the "B" battery in place of the accumulator when the latter runs down, as you are then overloading the filaments, by using too high voltage.

E.M. (Kensington): Your "A" battery has run down. If an accumulator is in use, it will be necessary to have this recharged. Dry batteries will have to be replaced.

G.A.F. (Gundagai).—An electric pick-up acts in the same manner as a microphone or speaker element. Vibrations of the gramophone needle causes the diaphragm to alter its distance from the electro magnet, and these variations in current are passed through the amplifiers and magnified, then emitted as sound waves in the same manner as they were created—that is, by altering the distance between the diaphragm of the speaker and the electro-magnet.

G.F. (Sydney).—If 'A' and 'B' batteries are in order test valves and transformers. The trouble may also be caused by a flat "C" battery.

T.M.G. (Brisbane).—A speaker with a horn should be rapped. If it gives off a dead sound this speaker will be O.K. Shun a speaker that gives off a hollow sound when tapped. Cone speakers are better still.

D.K. (Melbourne).—"Though I live nearer to 3LO than 3AR I receive this latter station at greater volume on my two-valve receiver." This is probably caused through some tall building or metal work situated in the path of 3LO's signals. It absorbs the energy.



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UX199, UV199, UX201A,  
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UX222 and UX250.

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Friday, 21st December, 1928.

WIRELESS WEEKLY



Christmas 1928

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