

WIRELESS WEEKLY

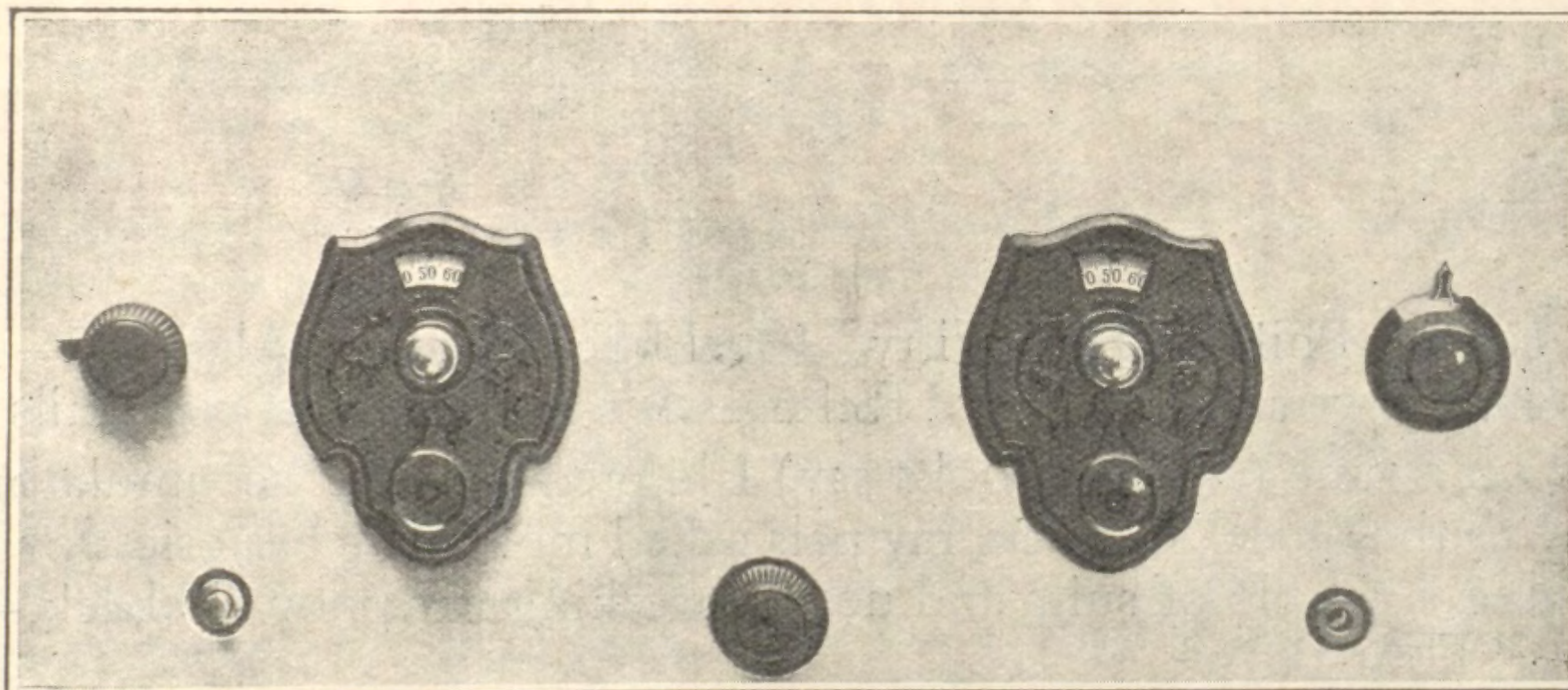
Broadcast Programmes a Week in advance

VOLUME 12

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

NUMBER 33

THE PENTAVOX



A Five Valve Receiver which does the work of an old
Five Valve Receiver, employs the Screen-grid and Penthore
Valves in this issue.

Friday, December 7, 1928

Price Threepence



*It charges either at 1.3 or .65 amps
— and it's made by PHILIPS!*

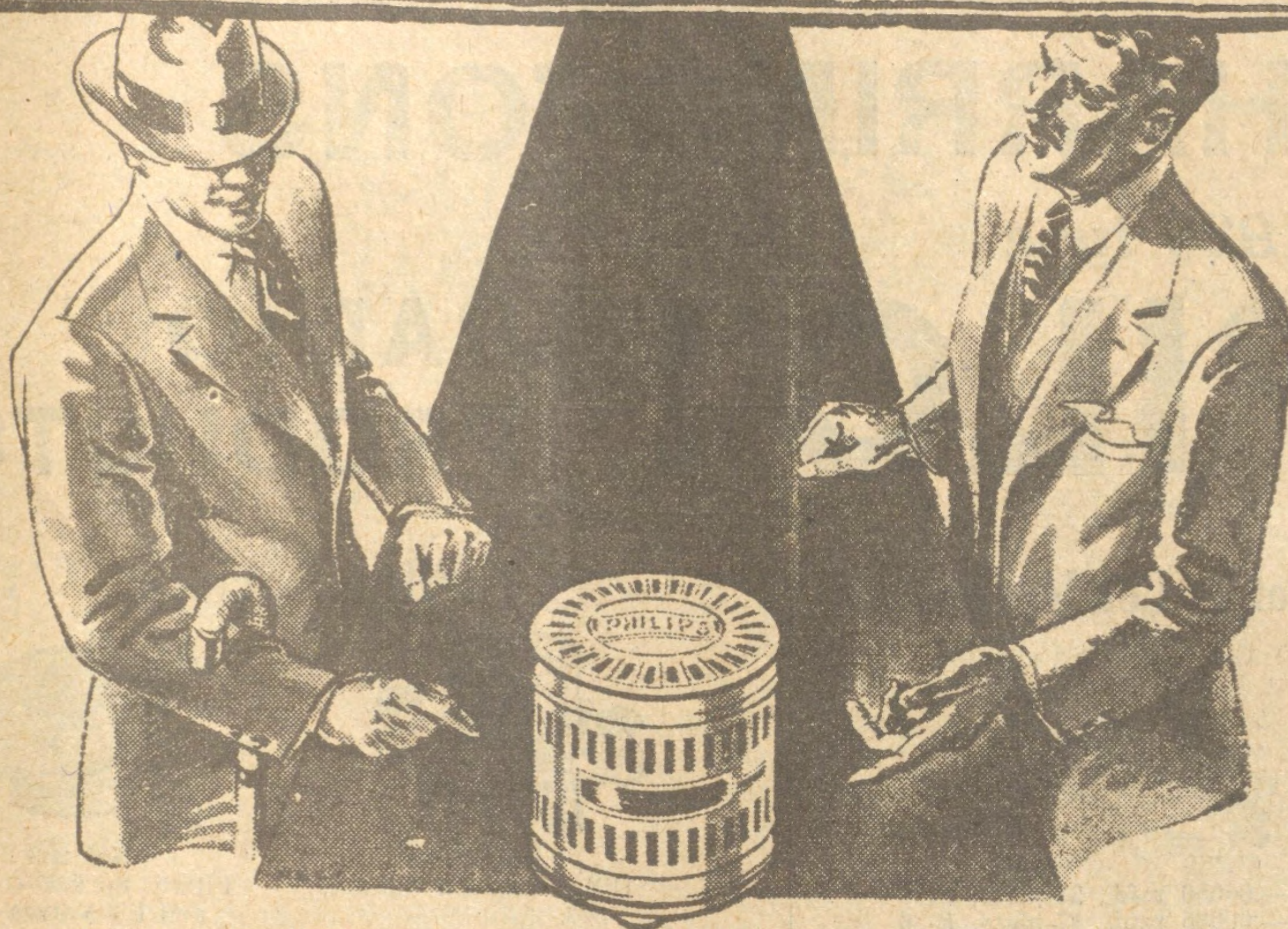
"Since I got my Philips 'Four-Fifty' I feel like a modern Aladdin — sort of 'power-house-at-your-front-door' feeling. It's a friend that *never* fails me!"

"Once upon a time (as fairy books say) I lugged a messy accumulator most of the way to the office, so often, my pals asked me if I ate batteries for lunch! After ruining a couple of suits and nearly breaking my poor old back,—I met the Philips 'Four-Fifty.'

"And now, Sir—just a snap of a little old switch once or twice a week on my way to bed and the little 'Four-Fifty' gets on with the job—silently, efficiently—*while I sleep*, and never have to move even a wire or a terminal on that 'A' Battery.

"Take my tip and hand 95/- over the counter to your dealer and say: A Philips 'Four-Fifty' charger please."

PHILIPS
BATTERY CHARGERS



AND YOU KNOW IT'S CHARGING WHEN YOU SEE THE "BLUE GLOW"

"YES, Sir, it's wonderful the number of people who snap the power switch to their Battery Charger and feel that all is well only to find one day that their accumulator is flat and practically ruined, and all this owing to a fault in the charger. It is to them that half our accumulator sales are made.

"No, it can't happen to this charger for it's a Philips 'Four-Fifty.' When the accumulator's connected up and the power is snapped on a 'Blue Glow' is visible through the ventilating ports, meaning that everything's quite O.K.

"There's lots of other interesting things about the 'Four-Fifty,' Sir, including its dual rates, and if you write to Philips Technical Department they'll send you the fullest information, and give you advice on any point that you would like cleared up.

"But you'll have it now. Yes, it's complete with plugs and cords.

"Wait a minute, please, there's some change to come. You see, it's only 95/-."

PHILIPS

BATTERY CHARGERS

8R70

At HARRINGTONS

The 1929 type

PILOT RADIO PRODUCTS

Variable Condensers



No. 1623—.00050 mfd., 23-plate, 14/6
 No. 1617—.00035 mfd., 17-plate, 13/6
 No. 1613—.00025 mfd., 13-plate, 12/-
 No. 1608—.00016 mfd., 8-plate, 11/3



Midget Condensers

No. J7, Midget.
 7-plate 5/6
 No. J13, Midget.
 13-plate 6/6

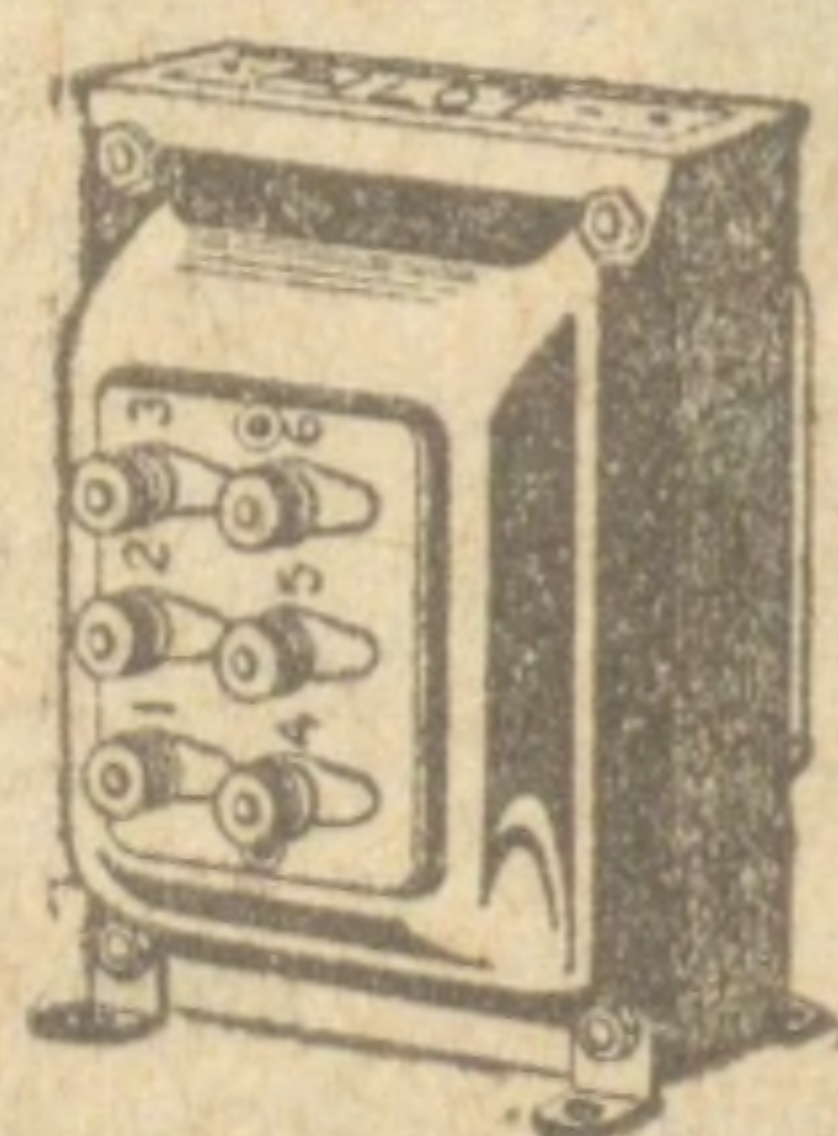
Pilot Micrograd

No. V.M. 80.
 2-plate 5/-

No. V.M. 81.
 4-plate 5/6

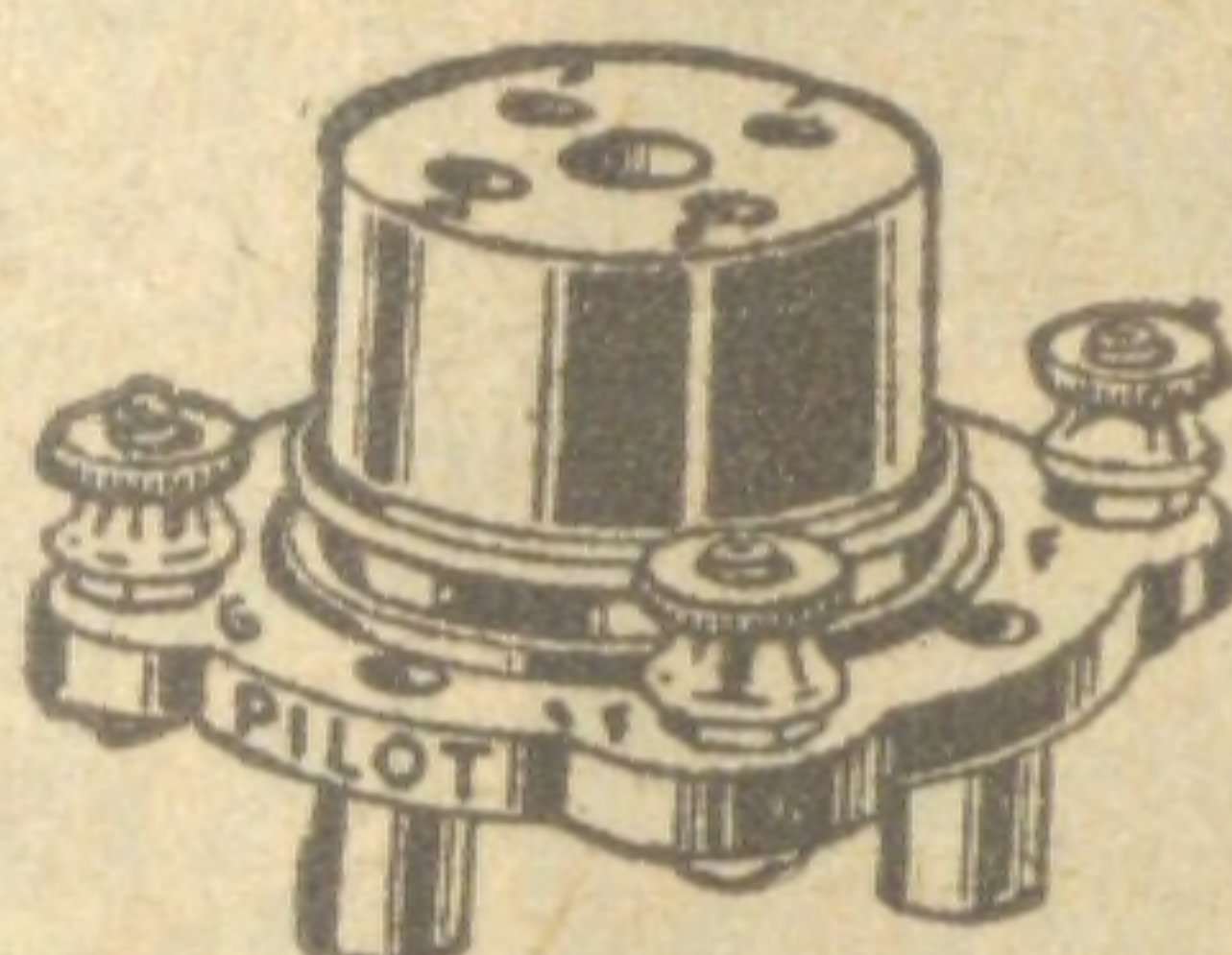


Pilot Transformer

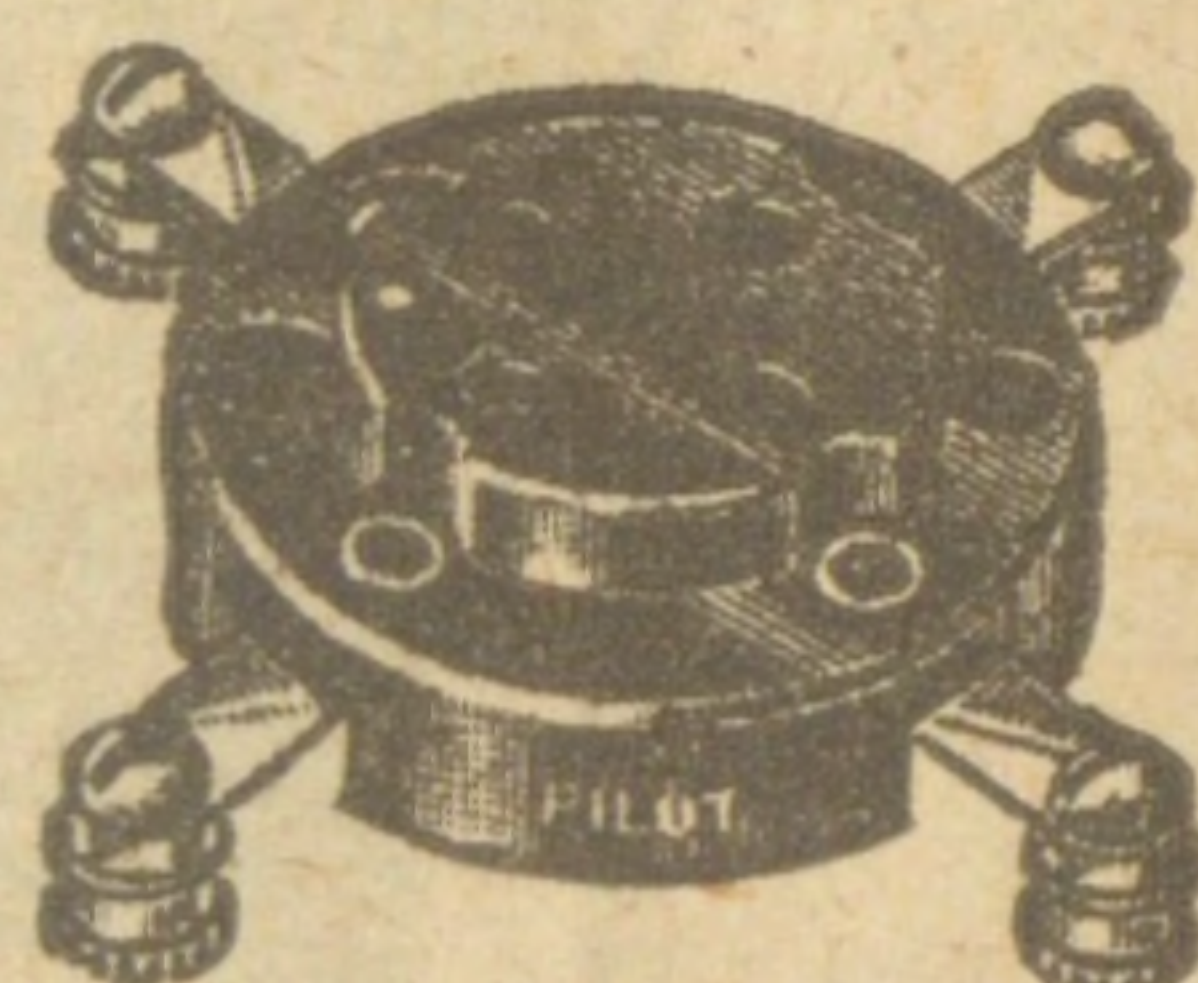


No. 388. — A.C.
 Tube Filament
 Lighting Trans-
 former, for A.C.
 Sets, 220-240 V.,
 £2/12/6.

Pilot Sockets



No. 206.
 U.X. Cushion Socket,
 3/3.

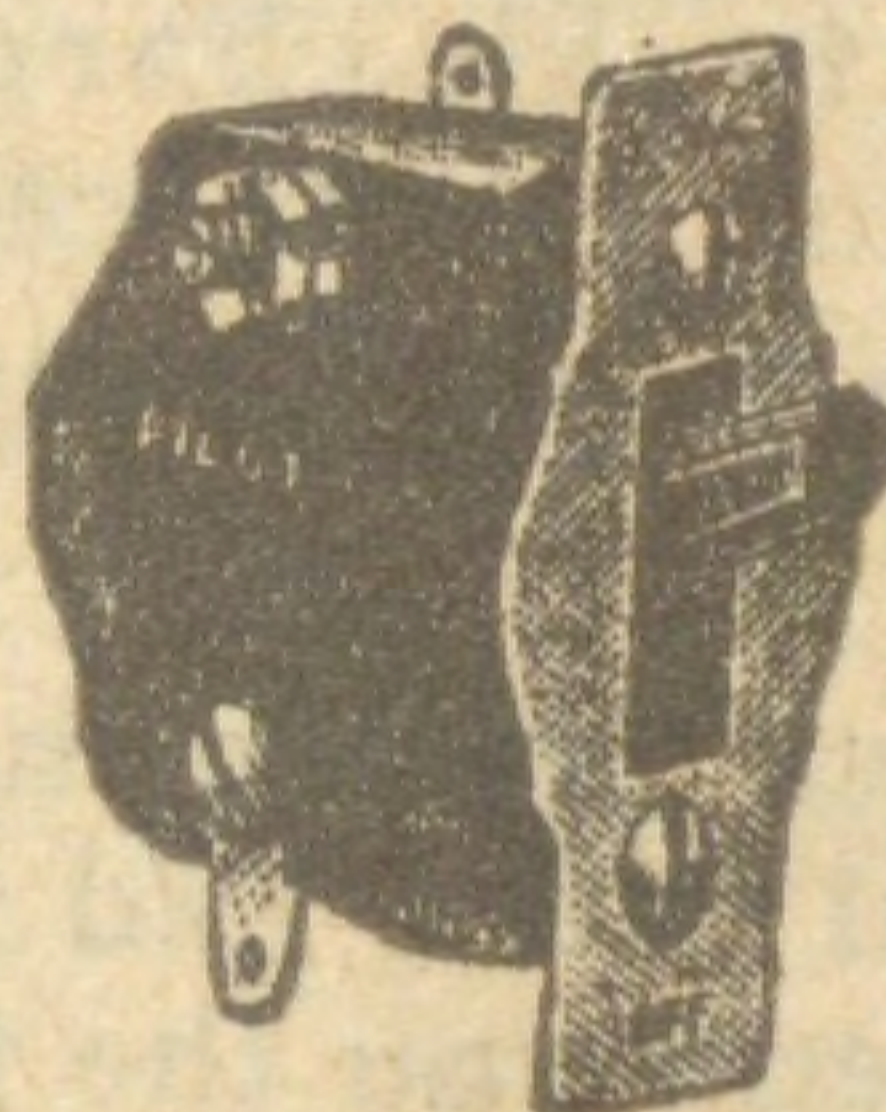


No. 203.
 Fit-all Socket for UX
 and UV Valves .. 2/-

No. 212. Five Pronged for UV227 Valves 3/6

Pilot Vernier Art Dials

No. 1278—Black.
 No. 1279—Walnut.
 7/6 each.



Pilot Toggle Switch

No. 42. Bakelite 2/9

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"Goodwill built on Public Confidence since 1889."

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TELEPHONES:
B 7148-9

WIRELESS WEEKLY

VOL. 12. No. 33.

FRIDAY, 7th DECEMBER, 1928.

Radio Sets Now Built to Last a Life-time

THE radio receiver produced to-day is on the same artistic plane as the gramophone and the piano and pianola. Not only is it to be regarded as a mechanism, but also as a piece of furniture.

Years ago, when the principles of construction were in a chaotic stage of development, the buying public was cautious about its investments in radio receivers. When the new development of one week was likely to be antiquated the next, it did not pay to spend a large sum of money on a radio set, but as principles became more settled the radio receiver has become a constantly more beautiful article of furniture.

It is probable that to-day, in the final development of special purpose valves, eliminators, and etceteras, that we have reached a stable position in the industry. It is not considered likely that any revolutionary developments will take place for many years. This means that the present chassis-built, all-electric receiver can be made for a lifetime of service, and the manufacturer can afford to put into it every detail of artistic appearance. Both table models and consoles have acquired a new attractiveness.

The console model especially is susceptible to artistic treatment, and enjoys a considerably increasing degree of prestige and favor among discriminating purchasers, who buy their receiver as they would their grand piano—to last a lifetime. However, in spite of this increasing favor for the console, the table type, artistically pleasing,

too, although on a less pretentious scale, will continue to be used by many.

The situation is somewhat analogous to that in the phonograph industry. All early type phonographs were table models, but, with the perfection of the mechanical side, the cabinet type came to predominate. Nevertheless, the music-lover who, for financial or other reasons, prefers the table-type phonograph, is able to secure one that gives excellent musical results, and lacks only the impressiveness of a cabinet type.

In very much the same way the listener who wants only good listening results, can purchase or build a receiver which gives him what he wants, but it has not the pleasing appearance of a console model. Also the large console model, manufactured on a large scale, and built into a special chassis, and with all component parts made to work harmoniously together, is, and always will be, a better work than the amateur-built receiver. It is reasonable to suppose that the less expensive table model radio receiver, with its ready portability, will continue to hold a definite place in the field, while the console type becomes more and more popular. But the home-built receiver, except when the constructor has considerable knowledge of mechanical and radio engineering, is likely to go out of fashion. If not within the next year or two, then just so soon as manufacturers take advantage of the new developments in valves, such as those we are placing before our readers.

BETWEEN YOU AND ME AND THE MICROPHONE

A Super-perplexodyne?

A NEW superheterodyne receiver with only three valves has been designed and patented by Major H. Armstrong, the British radio engineer.

Obvious

PRESIDENT-ELECT HOOVER'S favorite word, doubtless familiar to short-wave listeners by this time, is 'obviously,' which he uses time and again. In his speeches broadcast from 2XAF during the recent campaign, this word was frequently heard.

Heard 7LO?

A NEW short-wave station heard here during recent weeks is 7LO, Nairobi, Kenya Colony. 'Phone transmissions on 33 metres seem to overcome tropical static difficulties. The British East African Broadcasting Company controls the station. It also has acquired the right to maintain and operate the terminal transmitting and receiving stations for the branch of the "Empiradio" beam service between Nairobi and London.

Not Television

A SCOTSMAN recently admitted into a London hospital had his head jammed down the horn of a loud speaker. It was afterwards learned that, in the church from which the service was being broadcast, the collection box had been upset.



Quick Business

A MELBOURNE business man recently received a message from London, via the Beam service. Desiring the date of origin confirmed, he telephoned the Beam office, and made his request. "Excuse me while I ask London," was the reply. "But I can't hold on here all that time," he said. "Don't hang up, won't keep you long," came the voice again. Within 70 seconds the clerk reported, "The date of your message is correct as shown on the form." In those 70 seconds the Melbourne Beam official had called up London Beam office direct, the London clerk had looked up the file and confirmed the date to Melbourne, and the business man had received the answer to his request. Twenty-eight thousand miles of space crossed, and a small query answered while he waited.

Air Swears

THE plaintiff in a recent case in a London police court said: "He swore terribly at me in a broadcasting voice."

Turmoil

LISTENING to a perfectly harmless radio programme from Paris, a listener fell asleep and dreamed that he was back in the trenches in an artillery barrage, that his dog went mad and bit him, that he was almost overwhelmed in an eruption of Vesuvius, and that he met death in a railway accident.

LIST'NIN'

I'm old now, an' I'm not too strong;

My voice too cracked to sing a song;

But I was all the whole day long 'List'nin'.

I listen in to 3LO

Whenever things seem very slow,

An' all my troubles seem to go, 'List'nin'.

When 2FO's not on the air,

Why, 2BL is surely there,

An' I just sit in my ol' chair, 'List'nin'.

The night is drawin' mighty nigh,

And stars shine misty in the sky—

When I must go I'd like to die 'List'nin'.

But let me say, before I go,

To 2FC and 3LO,

I've had a lot o' joy, you know, 'List'nin'.

—Idris.

Programme Exchanges

A RECOMMENDATION that transmitting stations broadcast communications in the Esperanto language within the limits of their possibilities was a feature of a meeting of the International Broadcasting Union at Lausanne recently. A survey showed that 168 stations in Europe, Asia, and the United States sent out messages in Esperanto. The union discussed the organisation of relays for a wider exchange of programmes. It was decided to arrange relays between Germany, Austria, Poland, and Czecho-Slovakia. Announcement was made that considerable technical progress has been achieved in relaying musical programmes by employing submarine cables between Great Britain, Belgium, and Germany.

"Schwarzhoerers"

WE call listeners who avoid paying their dues "pirates," but those who don't pay the Government taxes in Germany are called "Schwarzhoerers" (black listeners). In the first quarter of this year 551 "pirates" were caught and fined in Germany.

Caught!

UNCLE PETER—Mr. Jack Barnett—of 2BL, is rarely at a loss for an answer. The other night he finished singing the Topical Chorus, and announced the station's opening numbers from a Conservatorium concert, arranged by Signor Guido Cacialli. Thereupon a friend put his head through the studio door and remarked that the chorus was Guid-O! "Thank you," said Mr. Barnett. "Did you Catchee-allee jokes?"

Passed By

THE Pim and Pam session at 2BL, follows immediately on the market reports. As the reports follow the same order every evening, Miss Pam and Mr. Pim can tell fairly well when their time has come. This will explain the disgraceful remark of Mr. Pim to Miss Pam the other evening, "He's down to the Pigs, Miss Pam—getting near us."

Howlers

THROUGHOUT the ages the young have been guilty of "howlers," and to-day even radio is not free from them when the youthful get beyond their mental depth. Here are a few gems turned out by young aspirants to radio fame and fortune:—

"Damping is the technical word for the froth produced when charging accumulators."

"Buzzer is a term used in constructing a wave-meter."

"Potential is the difference of strength between any two circuits."

"Inductance is a coil which is used for the purpose of helping to tune a set by means of a variometer."

"Capacity is the total strength of current which flows through any current."

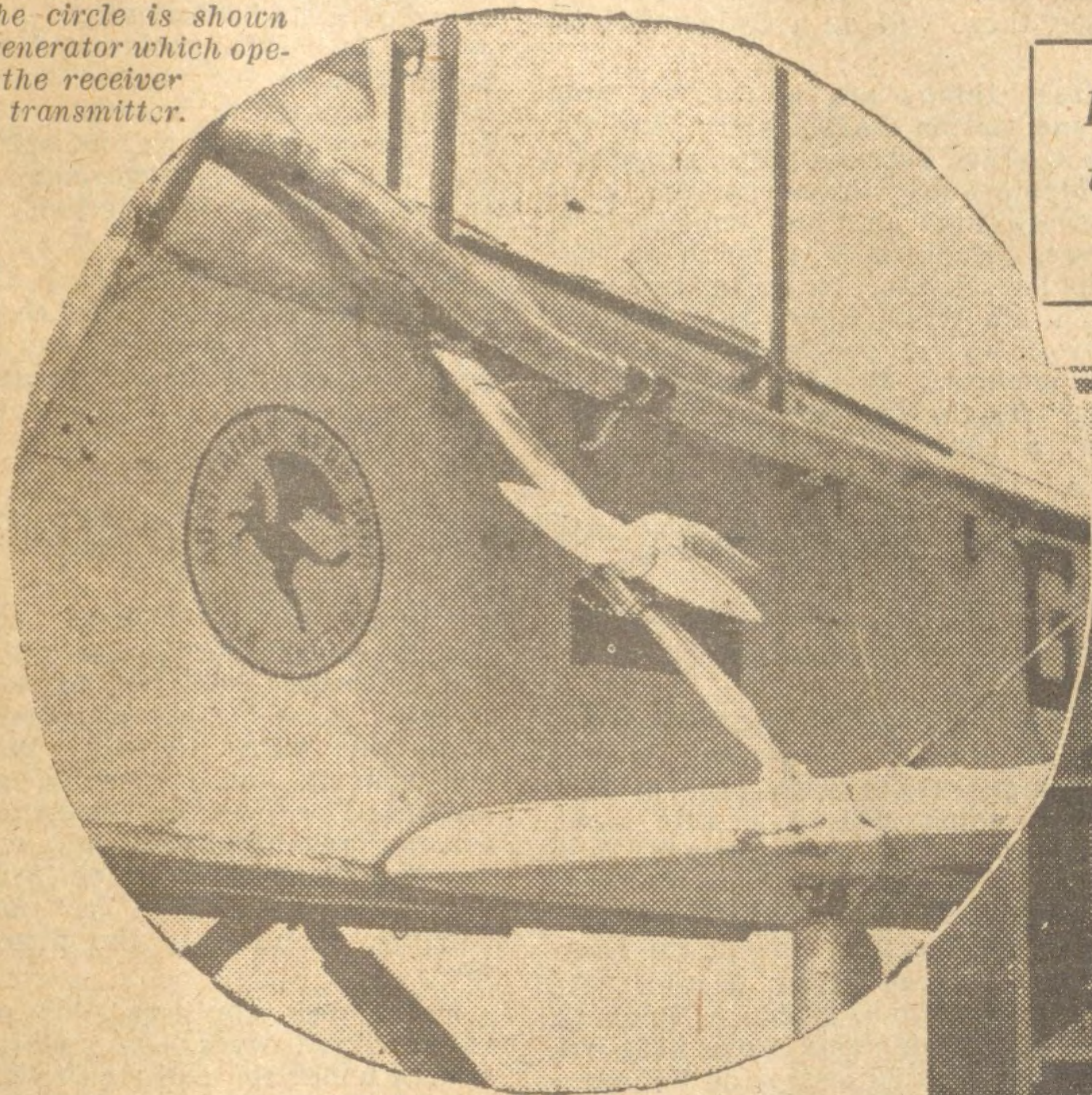
"A Micro Henry is a unit of electricity used for measuring the Cap."

"Ether is everywhere except between programmes, so then the studio takes a little piano music until it comes back."



Aero Club Forms Radio Section

In the circle is shown the generator which operates the receiver and transmitter.



How the Aero Club is employing radio to help new pilots on first solo flights.

Below: The set in the plane. Note also the headphones.

The transmitting and receiving equipment on the ground.



ACCORDING to Squadron-Leader Kingsford Smith, the most important man on a long distance flight is the wireless operator. The Aero Club is beginning to think so too. They have just brought a radio section into being, with Mr. S. V. Colville as honorary radio engineer, and such well-known operators as Messrs. W. D. Graham, W. Mashman, J. Atkinson, and S. Barber.

The radio section exists for "the advancement of radio as applied to aircraft," and is at present carrying out experiments to cut out magneto interference and interference from local vibration, at present making reception from within the 'plane almost impossible.

A unit plant has been evolved, a photograph of which appears on this page. The set for use in the 'plane appears on the bottom shelf. This set was specially designed and built by Colville Moore, Ltd., to be used by

Captain Moody on his trans-Tasman flight last February. The second photograph shows the equipment in position in the 'plane, secured by rubber straps; and the third shows the propeller-driven magneto. The aeroplane set utilises the master-oscillator-power-amplifier circuit; and is noted for very steady signals. The ear-phones are worth noticing; they are sound-proof, designed by Mr. Colville on the rubber suction principle. The four upper shelves shown in the main photograph hold the ground set—a standard 50-watt transmitter, using the tuned-plate-tuned-grid circuit—is on top, with a neon valve wavemeter on its right. The next shelf holds the midget short-wave-screen-grid receiver; and the lower shelves the power unit, etc.

Many experiments have already been carried out. Transmission from the 'plane to the ground has proved successful. There will be a Morse and telephony test shortly, while the 'plane travels to and from Richmond. Later, there will be a Sydney-Ballina test.

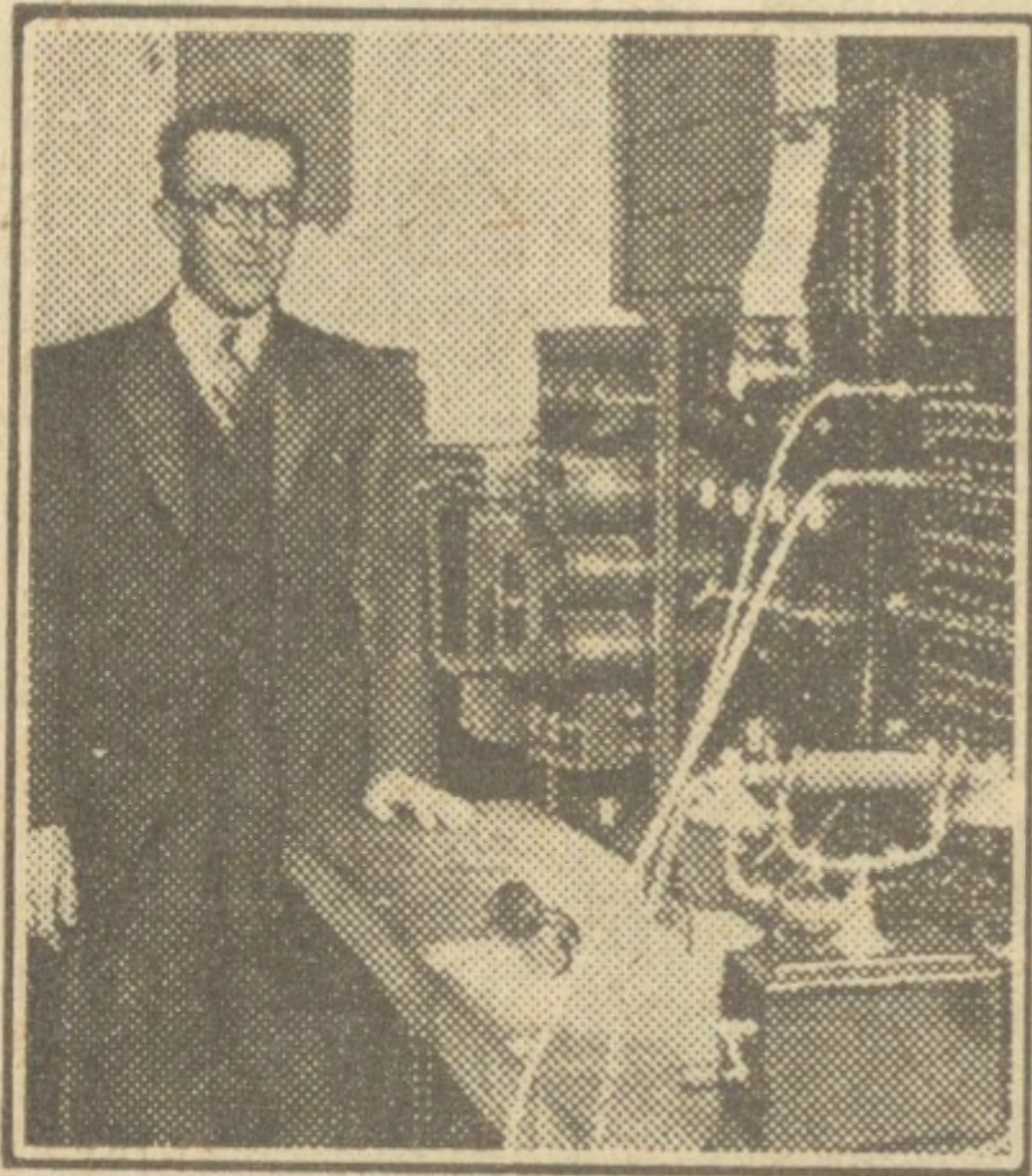
Great things are hoped for from ground station OA2FA and 'plane station OA2FB, because radio, especially radio-telephony, for aeroplanes is at present only in its experimental stages. Success will make it possible, for instance, for an instructor to coach his pupil from the ground. There is no one who feels more lonely and uncertain than a pupil flying "solo" for the first few times. Moreover, a squadron leader could give

manoeuvre instructions from the air. The present method of instruction, say, to "Turn to the right," is for the leading 'plane to dip the right wing, or to make some other preconcerted evolution which momentarily mars the unity of a flight formation. And, of course, successful radio-telephony will be invaluable for many individual 'planes operating at some distance from their base. It will be possible to plan and direct their movements with the precision of the Admiralty supervising a battle fleet.

The experiments of the radio section of the Aero Club are, therefore, of very great importance; and it is to be hoped that the Australian amateurs may lead the way to efficient aero-telephony.

"Most Highly Qualified Technical Staff in Australia"

WITH the appointment of Mr. Ray Allsop, the well-known 2BL engineer, as associate technical editor, "Wireless Weekly" believes that it now possesses the most highly qualified technical staff in Australia. Mr. Allsop



MR. RAY ALLSOP

plans to contribute a series of articles on all phases of radio, which should arouse a great deal of interest, not only among technical readers, but among general broadcast listeners.

His excellent shortwave relays have provided the public with very interesting material, notably those of PCJJ, 5SW, WGY, the "Southern Cross," and, more recently, Radio Paris. Mr. Allsop's record is among the highest in Australia. At the age of 10 years he started his career at Father Shaw's private station at Randwick. He served at sea during the Great War as wireless operator, and was aboard the troopship Argyllshire when she was torpedoed in the English Channel. He was present at the occupation of Constantinople, and entered the Bosphorus with the first British ships to pass after 1914. Returning to Australia, he became laboratory assistant at the naval workshops in Randwick. In 1923 he joined New Systems Telephones Pty., Ltd.,

as wireless engineer, and subsequently was appointed chief engineer of station 2BL.

Mr. Allsop's experimental work has been of an extensive nature. In 1924 he communicated with 3BD in Melbourne, using .003 of a watt input. He was the first to experiment with telephony transmission by wireless in Australia. From his private experimental station 2YG he put up many records. A card from British 2MI, Mr. Arthur Milne, Margate, England, shows that telephony from 2YG was heard there on 85 metres on February 28, 1925, at good strength. Telephony from 2YG was also heard in U.S.A., Argentine, Japan, and Persia at this time.

In Mr. Allsop "Wireless Weekly" readers have a technical authority with fitting experience for the contribution of highly interesting material for these pages.

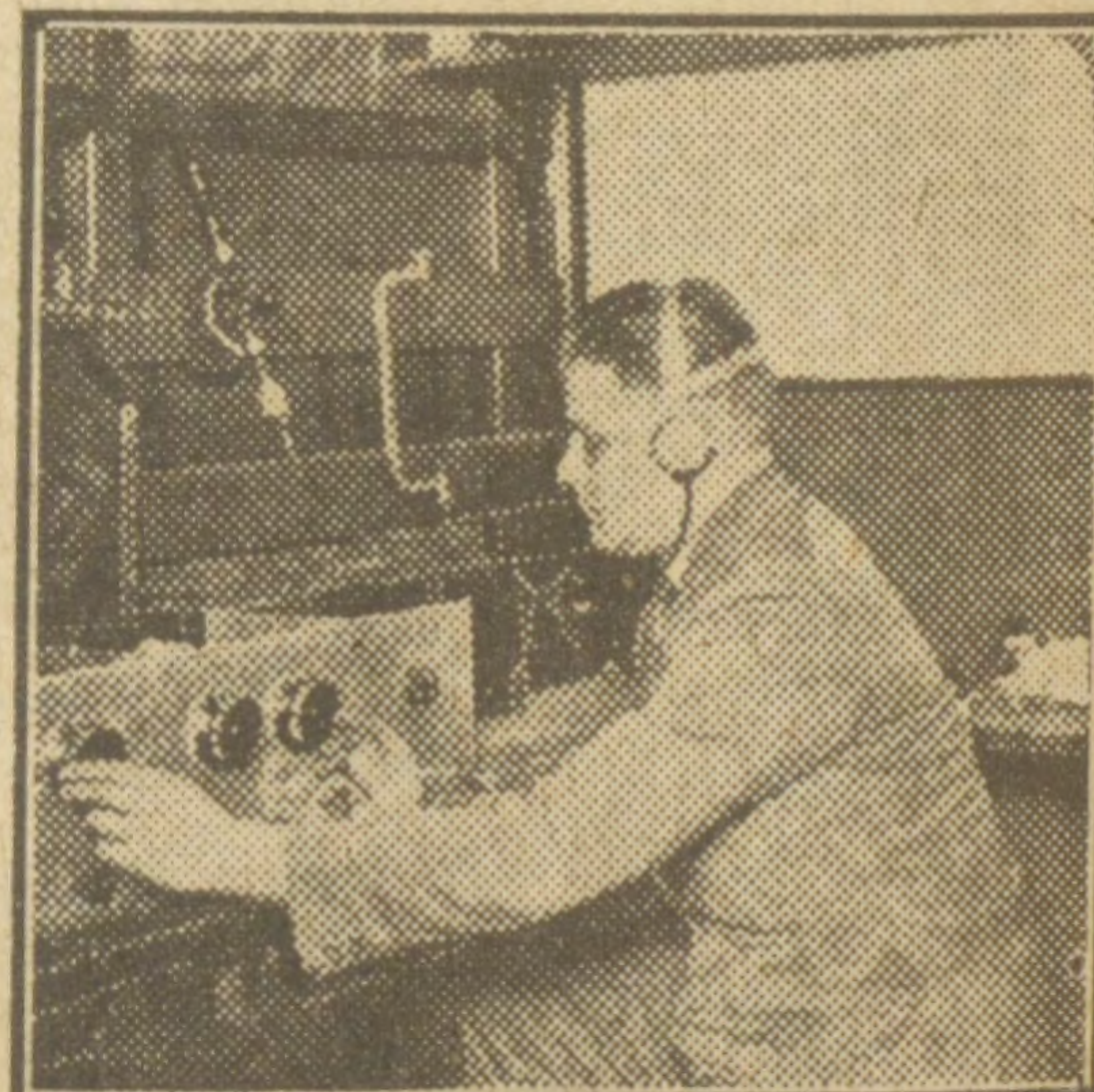
MR. ALLSOP'S contributions will be an addition to those of Mr. Don B. Knock, who will specialise in the construction of receivers and the design of new circuits. Mr. Knock has been responsible for a number of highly efficient circuits in the past, and is preparing some excellent material for future issues.

Mr. Knock has had an interesting and varied career, and has been an enthusiastic wireless amateur from his boyhood. Beginning as an experimenter in 1912, in Wigan (Lancashire, England), he delved into the mysteries of the magnetic and electrolytic detectors, and during his apprenticeship as a mechanical engineer devoted his spare time to wireless telegraphy. The outbreak of war curtailed his private work until, at the age of 17, he joined the Royal Naval Air Service, and was promptly drafted to the Aegean to Mudros and Stavros. His wireless activities found further scope, as he was engaged on observation work on the Bulgarian and Turkish fronts until the armistice. It is interesting to note that Mr. Knock was, like his confrere, Mr. Allsop,

among the first Allied Forces to enter Constantinople. Soon after the armistice he was despatched to Southern Russia, where he was attached in co-operation with General Denikin's White Army, and eventually emerged unharmed, except for virulent fever attacks, reaching England, via Constantinople, at the end of 1919, with haunting memories of a turbulent country, where only the fittest survive.

Mr. Knock continued his pre-war experimental work, and operated his station under the call sign 6XG, being professionally occupied with the Sterling Telephone Company, and subsequently the British Broadcasting Company. He then joined the P. and O. Steam Navigation Company, Limited, as engineer, in which capacity he visited Sydney on board R.M.S. Naldera, later deciding to settle here. In early 1926 he established himself in experimental wireless ranks here, and gained prominence by his station 2NO, which is now one of the best internationally known Australian experimental stations.

Mr. Knock's all-round wide experience and versatile pen place him as a competent technical journalist, which view is endorsed by our many readers' letters of appreciation following his many constructive and topically-written articles.



MR. DON. B. KNOCK.

The Screen-grid Short Wave Superheterodyne

Mr. Allsop's famous short-wave superheterodyne, here fully described by Mr. Allsop himself, with the additional stage of pre-amplification which he has but recently added. It was on this receiver that Mr. Allsop tuned in Radio-Paris for re-broadcasting, 5SW, PCJJ, ANE, 2XAF, and many other stations.

(By RAY ALLSOP, Associate
Technical Editor.)



MR. ALLSOP,
Associate Technical
Editor.

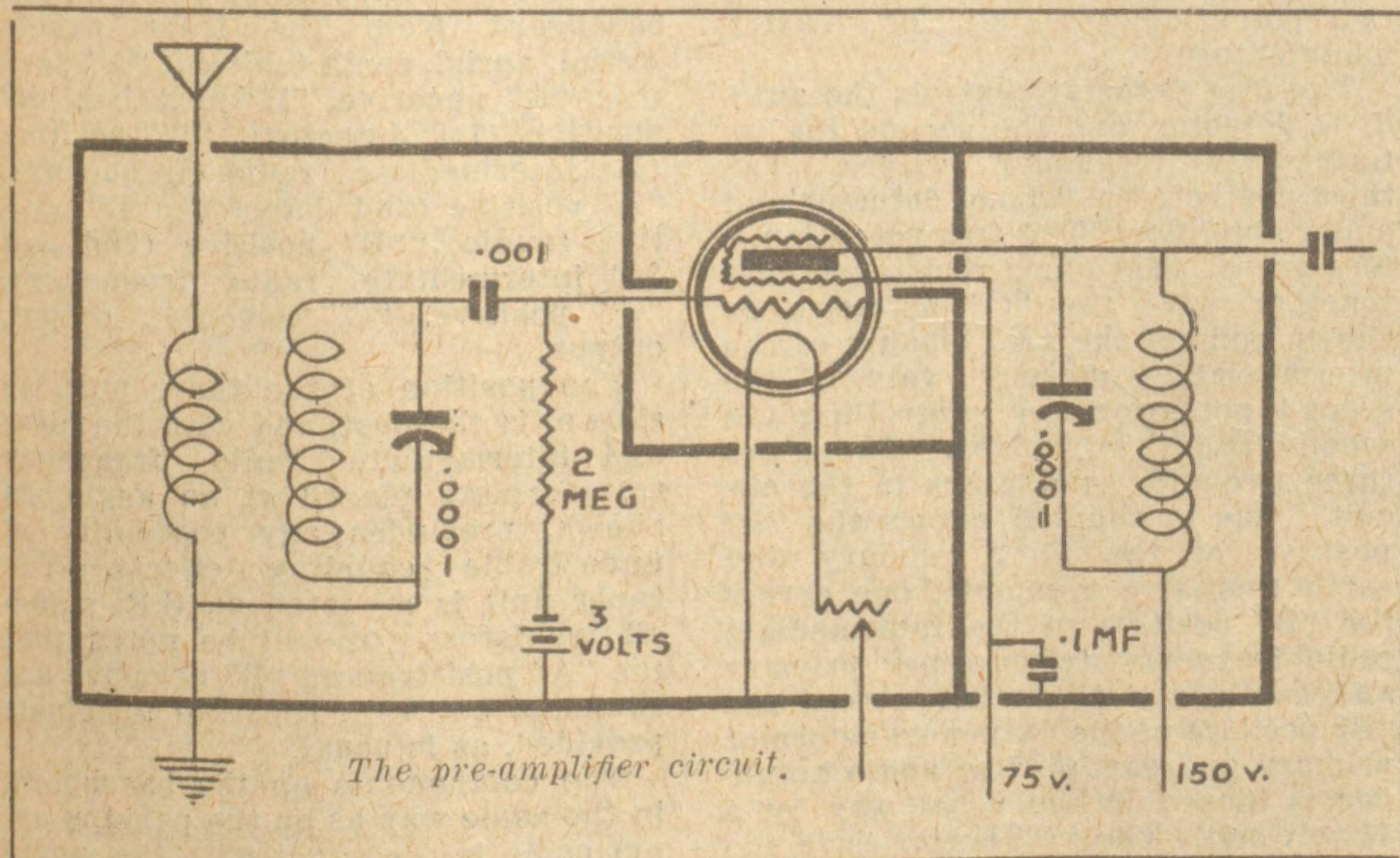
IN these days of progressiveness, anything touching on shortwave reception is at once fascinating to radio enthusiasts—both from the broadcast listener's point of view and that of the transmitting amateur.

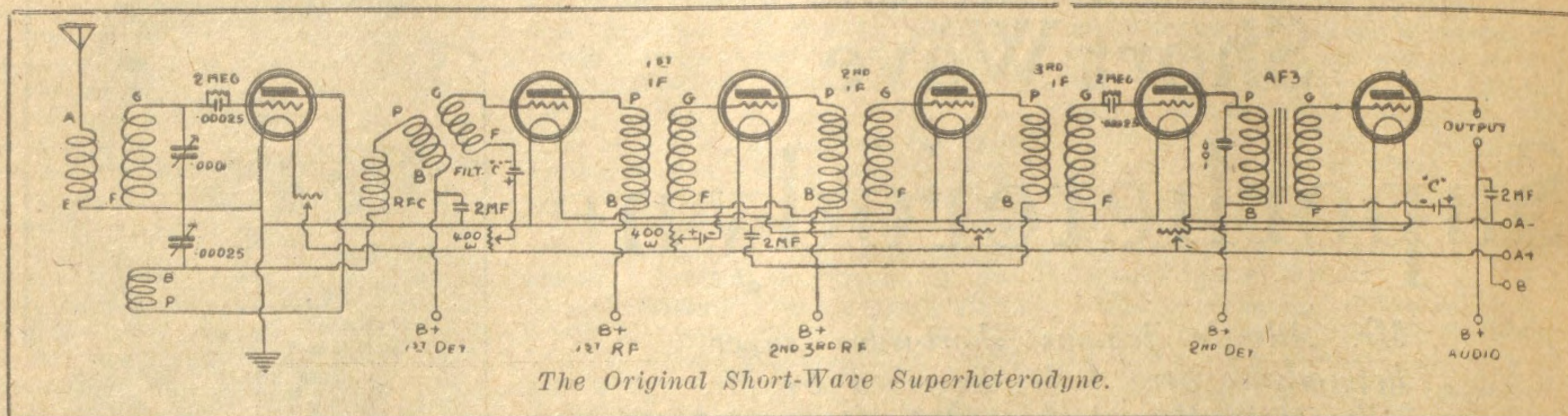
We live in an era in which the world has suddenly grown small; and it is truly hard to realise that, but a few short years ago, anyone who had mooted the idea of international broadcasting would have been ridiculed. The employment of shortwaves for general communication is slowly but surely welding our world into a mass of humans with a more common understanding between each other. Daily we have in every part of the world our transmitting amateurs who exchange greetings and ideas with ab-

surdly low power. The son of a millionaire in Chicago can literally "slap on the back" by radio the son of a Soviet commissar in Moscow; or a Jap and a Hindu will call each other "old man," and forget their antagonistic religious beliefs. People situated far apart—and with strongly adverse creeds—and yet making life-long friendships through the medium of radio! Then, most important of all, is the advent of international broadcasting; this medium which is bringing together the peoples of the world in a very human manner. A programme originating in the Mother Country is picked up in Australia and listened to with keen interest by her sons and daughters overseas; or our American neighbors' ideas are heard in Australia and appreciated by a huge unseen audience. None of this

would be possible but for the efficient utilisation of the shorter waves. A lot of spade work has been done in the last four years on both transmission and reception. Transmission has well-nigh reached perfection, and reception is a very close runner-up. The broadcast listener who sits at home in comfort and enjoys a programme originating in Savoy Hill, London, or Madison Square, New York, will no doubt wonder how it is all done, and what constitutes the heart of the occurrence at this end. From time to time descriptions of shortwave receivers of simple design have appeared in the pages of "Wireless Weekly"; so far, with an exception or so, the instruments described are actually more efficient from the viewpoint of long-distance telegraphy reception. They all make use of the conventional "Schnell" or "Reinartz" circuit, which is simplicity itself, and efficient to a certain point. No radio frequency amplification is employed: not that this cannot be done, it can, but would be rather difficult to control in the hands of any but a well experienced operator. How, then, is this done in the case of a relay from a broadcast station? Those who have listened to the relaying of 2LO London through 2BL Sydney will appreciate how on a good night the 2LO programme is heard here with very little fading, and with very consistent results.

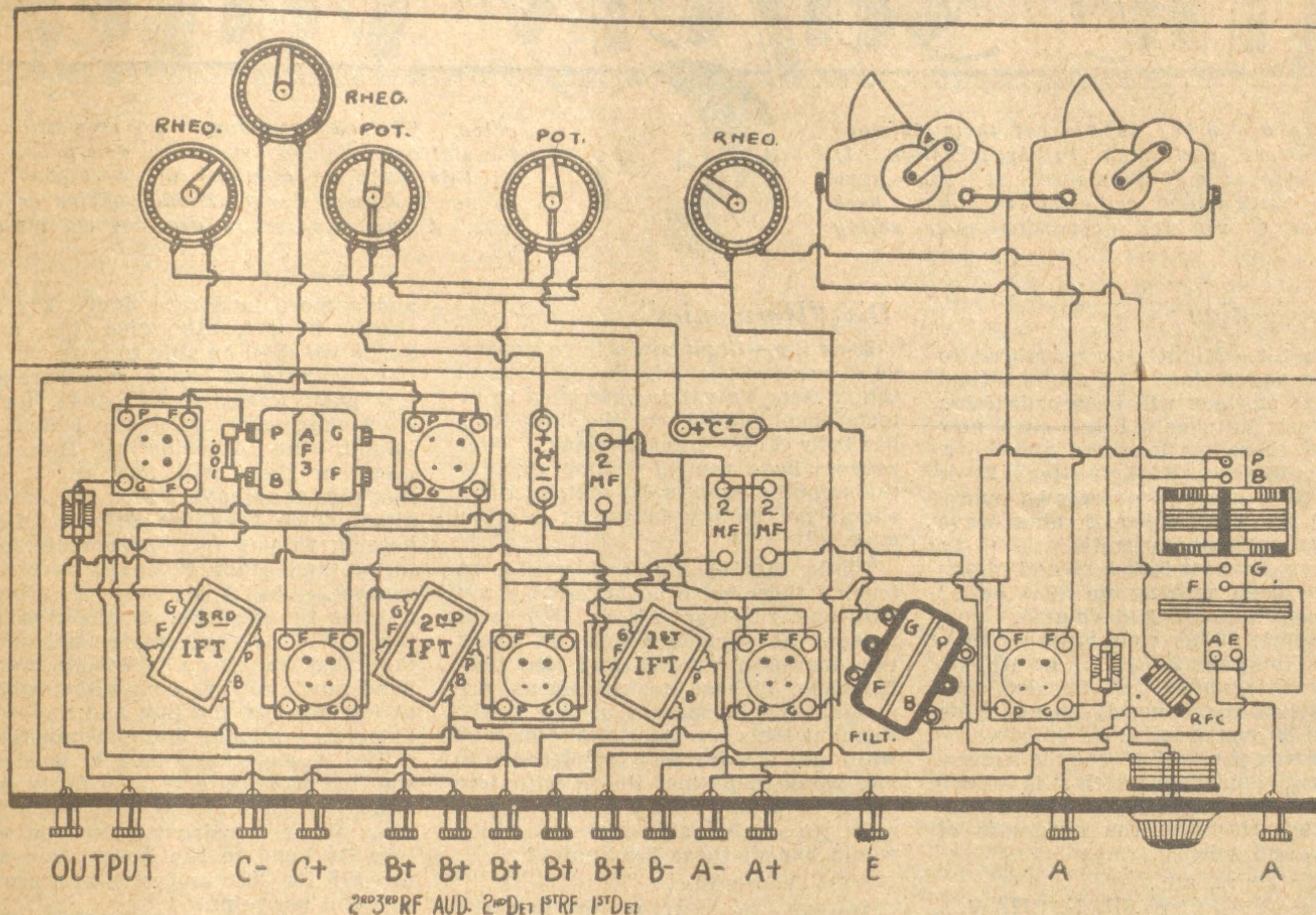
The word "Super-heterodyne" may sound awe-inspiring to those who conjure up visions of a very complicated piece of apparatus. This is far from being so, and it will be found that the receiver is simple yet highly efficient. The receiver is extremely well-constructed, and laid out in a manner which does not make for extreme





The components on the baseboard, in the same way as on the panel, must not come into contact with the shield electrically, unless to provide a con-

With Reasonable Skill and Patience You Can Make It



The Wiring Diagram of the Original Short-Wave Superheterodyne.

nection to the filament negative supply where required. All the wiring is done with No. 16 tinned copper busbar insulated by means of "spaghetti." This is advisable to avoid any possibility of leads shorting where they cross each other, besides giving the finished receiver an attractive appearance. The wiring is quite straightforward, and involves a little care in so doing. The filament circuits will be wired up first.

The wiring of any receiver is greatly simplified by attending to the filament circuits first. As the diagrams are self-explanatory, it is not necessary to give point to point wiring details. A few details, however, regarding "B" battery voltages will be of use. The first or autodyne detector has a "B" voltage of 45, the intermediate radio frequency valves 110 volts, the audio 130, and the second detector 45. It will be seen from the photographs that Benjamin UX anti-vibration sockets are used throughout. This brief description will give readers a good idea of the excellent quality of this receiver, which is used almost exclusively in rebroadcasts. The receiver is linked up with the control room of 2BL in the city by a special private land-line. The output transformer used, with a 1-1 ratio, is suited to the resistance of the line, so that no distortion thereby is in evidence in any way. A change-over

switch throws the line to either the telephone or the receiver.

In the initial tests with this super-het. I tried a separate heterodyne which was superseded by the autodyne detector, as this latter method resulted in a more silent background. This is a very important feature. An excellent vernier effect is also obtainable by means of the regeneration control, so that the tuning control leaves nothing to be desired. It should be mentioned that the oscillating detector is not so efficient at wavelengths above 80 metres. This is immaterial, as all international short-wave broadcasting is located in bands from 10 to 70 metres. Volume control can be effected by means of the potentiometers, and the first or last intermediate radio frequency stages can be brought into oscillation for the reception of C.W. signals. The signal strength is a little weakened by so doing, but not materially. This makes the receiver extremely interesting for the amateur telegraphist. The two coils, as used, cover respectively 10-31 and 30-75 metres.

It is interesting to compare the fading effect of a long-distance telephony station on an ordinary "low-losser" with the absolute stability and constancy of the signal on this relay shortwave super-het.

As the receiver stands, it is designed expressly for relay work, so

that an extra stage of audio would be an advantage for loud speaker work. For those who have the enthusiasm (and they are legion) to build what is actually a simple but super-efficient shortwave receiver, a list of suitable parts is shown elsewhere.

Readers of "Wireless Weekly" have had many recent constructive articles showing how to apply the screen-grid valve for broadcast or shortwave reception. The separate diagram given here shows the use of a Philips A442 as the R.F. amplifier before the first detector of this super.

This screen-grid circuit is intended to be used as an R.F. stage preceding the first detector of this super-het. Two screened chambers are necessary—the first one for the aerial and control grid coils, .0001 tuning condenser, .001 fixed capacity grid coupling condenser, grid resistance, and bias battery. The corner of this chamber must be screened off for the Philips A442, this screen being divided to correspond with the internal screen of the valve. This feature was explained by Mr. Knock in his "All Empire" receiver. The second chamber houses the variable .0001 condenser and plate tuning coil, also the two 1-mfd. by-pass condensers. The small coupling condenser will also be housed here. A small Pilot midget answers this purpose well. The battery supply

(Concluded on page 22.)

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.

A Suggestion

Dear Sir,—Might I be permitted to offer a suggestion? In a short time the "A" stations will be broadcasting the Test Matches. I am sure now that if these stations are also operated on dual wave lengths (say, 31 or 32 metres) it would greatly be appreciated by thousands of short-wave fans throughout Australia.

During the last few days and nights I have been picking up 3LO on 32 metres with wonderful volume, I suppose nearly 50 per cent. stronger than the "A" stations 2BL, 2FC, or 4QG on the ordinary band. Static also does not appear to be nearly so annoying on the 30 metre band.

Trusting you will accept the suggestion in the spirit in which it is "transmitted," viz., to assist in furthering the unravelling of the mysteries of nature and science.

Yours, etc.,

R. N. SHAW.

Wauchope.

Attention, Mr. Gannon

Dear Sir,—I notice in your "Safety Valve" column a letter from a Mr. J. J. Gannon re the extraordinary performance of his two valves. Could I get, do you think, from him, through you, a wiring diagram and list of parts required to build a set the same?

Yours, etc.,

E. EASTON.

6 Riverview Street, Cabarita.

A Queensland Audience

Dear Sir,—Referring to Mr. Sandow's letter ("Wireless Weekly," 23/11/28), let me endorse in full this correspondent's views.

Personally, I should like to hear a recital by Mr. Robins for at least an hour—say twice a month—in addition to the short transmissions from the Arcadia Theatre. Mr. Robins lived many years in Charters Towers, and I am sure his recitals would be listened to with extreme pleasure, especially during the winter months, if put on early in the evening programme. The transmission from the Arcadia Theatre is, in my opinion, the best of any theatres I have listened to, and I have been listening in for four years.

Yours, etc.,

GEO. H. COLLYER.

Cooroy, Q'land.

Dis "Harmonics"

Dear Sir,—Complaints have appeared at various times in the columns of the "Safety Valve" in reference to interference caused on the broadcast band by C.W. transmissions. Also readers have replied stating that, as the shipping band is 600 metres, there should not be any danger of interference.

While this should, and would, be true, if there were no harmonics, yet with my receiver strong Morse is present at various times, on about two degrees from 2BL and also 4QG, Brisbane. These transmissions are undoubtedly harmonics from VIS, the Pennant Hills commercial station, and while not causing any interference to me, would doubtless do so with less selective sets. Would it not be possible to make adjustments which would banish these harmonics?

Yours, etc.,

Marrickville. D. H. WHALAN.

The Bands

Dear Sir,—Not content with refusing permission to allow registered bands to enter for the Radio Eisteddfod, I see now that the Bandsmen's Association has refused permission to allow bands to broadcast for a fee which does not exceed £15. Of course, broadcasting stations cannot afford to pay £15 per night for about six items.

It must be admitted that some bands are only being paid £1 for their services, whilst others receive £5, and even more. However, £15 is too much,

And so to Bed

DEAR SIR.—Kindly allow me to suggest that the Manager of 2BL put Mr. Pim and Miss Pam to bed after the children's stories are finished, and give us in the bush something to listen to—a good news service, and latest cricket scores. I think it is the best time for news, as 2BL news is 6.30—too soon for us, and those advertisements for half an hour are a waste of time—even worse than H.M.V. records, of which 2BL must have an unlimited supply. Every home in the country has a gramophone, and a stack of records, and 2BL being our best station tune in any time of the day, and you hear H.M.V. records.

Yours, etc.,

F. W. REYNOLDS,

Central Tilba.

and a more moderate figure, say £5, should be set, otherwise the only bands we shall be able to hear will be the unregistered bands, and there are few good unregistered bands, for a good band will realise the benefit of joining the Association. However, many of them will now regret the fact that they have joined the Association, since they are debarred from helping to pay for instruments, uniforms, and other expenses by broadcasting. As a listener, I protest against the decision of the Association. We have only to remember the fact that in every plebiscite taken band music always comes somewhere at the head of the list, and therefore listeners are being done an injustice.

The Association's idea is good—to see that bands are treated fairly, and alike, but their arrangements are rotten. What broadcasting station will bow its head to the Association and pay £15 for 20 minutes' music, nearly a pound per minute?

In the interim, listeners—those who have to pay—must sit back and put up with other people's hard-headedness.

Yours, etc.,

A. G. FROME.

Bathurst.

2BL Heard in New York State

Dear Sir,—Of the Australian A Class stations, 2BL is by far the best received in this section of the United States. 2BL has such a remarkable record that I shall name a few interesting things regarding it.

I have heard 2BL regularly since the fall of 1926. The best months of the year are October and March. 2BL comes in here morning after morning, from 4½ A.M.E.S.T to sunrise. Although the station is nearly 10,000 miles away, I have heard it at R5 on 3 tubes (O-V-2). The G.P.O. clock and chimes are always interesting. The earliest I ever heard 2BL was 4.15 a.m. and the latest 7.15 a.m. The longest I ever listened to 2BL was an hour one morning. On one occasion 2BL was heard for 20 minutes after sunrise.

Australian fans must remember that the world listens to their stations. My best wishes to my fellow-fans across the sea.

Yours, etc.,

RAYMOND M. BELL.

Syracuse University, New York State.

Victoria v. New South Wales at Melbourne

OUR story to-night goes over 70 years back, as it is 72 years since New South Wales first took the field at Melbourne for the cricket honors of the respective States.

Since that distant date—March, 1856, each side has experienced numerous ups and downs. But interest has never flagged, either in Melbourne or in Sydney, no matter whether the sun of cricket shone in victory or hid itself in the gloom of defeat. To bridge this long period, the facts and figures have been grouped in eight match cycles, the first of which brought seven victories to Victoria, and only one to the Mother State.

Before the first match was begun there was a disagreement. The Sydney men, as visitors, claimed the right to have the choice of innings; the Victorians, arguing that that practice was obsolete, insisted on tossing, and, winning the toss, batted first. The first ball was delivered by Gilbert to Sergeant, who drove it forward for two. Gilbert, playing for New South Wales, played in England in 1851 for the Gentlemen v. Players, and Sergeant, representing Victoria, was also an Englishman, who later returned home, and was knighted at the age of 91, and is now the only living player that took part in that game.

New South Wales players were dressed in white flannels, and their captain wore a dark red shirt as a distinguishing badge; while the Victorians had adopted a shirt with a mauve cross-bar on a white ground, with the usual white pants. Some of our veteran cricket fans will declare that bowlers were bowlers in those days; but present-day trundlers will defend themselves by declaring that wickets were not wickets in the 'sixties, but were just ploughed fields. Be this as it may, the early averages show such match entries as: Gilbert 11 for 88, Elliott 10 for 35, Cosstick 10 for 77, and Allan 13 for 60, and during this period Victorian trundlers on three occasions and New South Welshmen twice bowled unchanged throughout an innings.

The first century in representative cricket in Australia—110—was associated with these games. It was hit by R. W. Wardill at Melbourne in December, 1867. He was a brother of Major Ben Wardill, who for so long was secretary of the Melbourne Cricket Club. C. S. Gordon, known as Lieutenant Gordon, an Englishman playing for Victoria, was the next exponent of the century idea in these games. Early totals were extremely moderate, the first excursion into the fourth hundred happening in February, 1870, when Victoria got 337.

The balance of power adjusted itself during the 'seventies, when there were giants afield—viz., Blackham, Boyle, Evans, Horan, Murdoch, Spof-

By courtesy of 3LO Melbourne, we publish below a talk to be delivered by Mr. R. H. Campbell next Friday night.

forth, and the Bannermans. The period count gives four victories each to the competitors, and the details include averages of 11 for 66 and 10 for 105 to the credit of Ted Evans. Then followed an absolute burst of bowling, when half a dozen men acquired double figures. The records read: Palmer 11 for 127, Spofforth 10 for 138, Turner 10 for 135, Hugh Trumble 10 for 107, Charlton 11 for 129, and Jim Phillips 10 at the trifling cost of 44 runs. Phillips was later known to fame as an international umpire.

The centurions of the period were Jack Blackham, H. J. H. Scott, M'Ilwraith, Percy M'Donnell, and Alec Bannerman—the latter the first representative of New South Wales to score a century at Melbourne in these games. When Hugh Trumble and R. W. M'Leod were recording such figures as 11 for 103 and 11 for 152, Victoria kept in the ascendant with five wins to three. Percy M'Donnell during this period had settled in Sydney, and, returning to Victoria as captain of a New South Wales side, registered the first double-century in these games at Melbourne. Turner and M'Kibbin were striving to counteract the Victorian stars, and registered 10 for 142 and 12 for 220 respectively; but Harry Graham, Jack Worrall, and Billy Bruce were rapping out the centuries, to set off similar scores by Frank Iredale, Syd. Gregory, Monty Noble, and Harry Donnan on the other side.

The great period which ushered in players like Warwick Armstrong, Victor Trumper, and Jim MacKay found Noble going strongly in both departments, and the Victorians fell back. Only two Victorian successes in eight matches came through just then, New South Wales treating us to a score of 805, and tabling a victory by an innings and 253 runs. Bill Howell's collection of 10 wickets for 79 runs and Noble's 10 for 82 were adverse factors to our team. Two centuries by Armstrong were 137 and 168 not out, a Noble bracket reading 281 and 101. Tommy Warne, whose son now plays cricket with Carlton, was Victoria's only other three-figure exponent at the time.

In the valedictory game of this period Trumper scored a brilliant 119, reaching his century when the total of the innings stood at 124. In one over from Gerry Hazlett he hit five fours—four of them in succession. The popular fast bowler, Cotter, tabled

10 for 124 in the succeeding eight-year session; Emery heading the entry with 12 wickets for 113, and R. B. Minnett with 10 for 124. Warren Bardsley three times broke the century with 149, 124, and 124 not out. Trumper and Kelleway each indulged in a trip across the fateful line, which Fred Baring, now the captain of Northcote, twice passed in the Victorian interest, his one associate being Edgar Mayne, who got 105 on his first appearance for Victoria in December, 1918.

The last lap in our survey of the historic Boxing Day games discovers some tall scoring: New South Wales 705, in December, 1925, with three big innings from our own people—464, 412, and 413. But in December, 1926, Victoria overshadowed all innings scores in these or any other series of games by registering the greatest outpouring of runs ever recorded in a representative match in the world—1107. Going in on the second day of the match, Victoria scored 573 runs for the loss of only one wicket, the runs being accumulated at the phenomenal rate of about 108 runs an hour—the first 50 came up in 28 minutes, the fourth in 17, the eighth and tenth each in 20 minutes. The chief subscribers to this mammoth score were Ponsford with 352 (the highest individual total recorded in these games), Woodfull 133, Hendry 100, and Jack Ryder's 295, one of the greatest innings ever hit in the Melbourne ground, batted out at the average rate of about 75 runs per hour.

Soon after reaching his century he jumped out and drove Mailey into the reserve near the sightboard for 6; later he drove Andrews into the outer ground in front of the Harrison stand, the ball being caught by a spectator. Again he drove Andrews for a 6, and again a spectator made a catch. Later he again drove Mailey, this time on to the balcony of the members' pavilion, for 6; and, a few runs later, for the third time turned his attention to Andrews, and drove him for another 6, and again drove the same bowler for 6 with his score at 291. Covering this final period Mailey penetrated the wall of runs, and entered up 12 for 196, but no other trundler registered a match double important enough to qualify for this story. Centurions crowded in, however. Woodfull three times broke the century line; Andrews, Collins, Kelleway, Mayne, Park, and Ponsford each getting there twice. Warren Bardsley also got two centuries, which, added to the three previously made by him in these games at Melbourne, gives him a unique place in this history. Hammy Love has shown his impartiality by aiding each State with a hundred.

It is worthy of note that of twenty-two centuries in this concluding stage only four have reached to one-hifty. Such is the brief chronicle of the Boxing Day fixture at Melbourne.

PEOPLE *in the* PROGRAMMES

English Pianist

THE programme to be submitted to the public and listeners on Tuesday evening, December 18, at the Sydney Town Hall, will be a very fine one. In addition to the winners of the Eisteddfod, well-known artists will contribute. Noteworthy amongst these is the first appearance in Australia of Miss Mannie Hamblett, well-known English pianist, who is at present in Sydney on a tour. Miss Hamblett has broadcast regularly with the British Broadcasting Company through London and associated stations for the past four years, and her recitals in England and the Continent have brought forward the highest praise. Classed by the London press as one of the cleverest of young English



MISS MINNIE HAMBLETT.

pianists, she has attracted particular attention by her presentation of a pianoforte concerto very rarely heard and not yet performed in Australia—Liapounow's "Oukrainische Rhapsodie."

Miss Hamblett has been engaged by the New South Wales Broadcasting Company, Limited, to make her initial appearance at the Sydney Town Hall concert, and will later give a series of studio recitals, when, on one occasion, this concerto will be presented in association with Mr. Ewart Chapple, well-known Sydney pianist; and on another occasion she will present Strauss' famous Sonata for 'cello and pianoforte, in association with Mr. Bryce Carter.

Miss Hamblett, who is a pupil of Teichmuller, has been associated on a number of occasions with Sir Dan Godfrey and his famous orchestra, and has given many recitals in the London concert halls—Wigmore, Steinway, and others. Sydney music-lovers are looking forward to an opportunity of enjoying this distinguished pianist's recitals.

Graham and Wattie

SIX feet of merriment is how Archie Graham, of the celebrated "Archie and Wattie," now appearing at 5CL, may be most aptly described. After playing on the Tivoli circuit throughout Australia, Archie, with his partner, Wattie, has been broadcasting from the chief stations in the eastern States, and is now at Adelaide, with an enviable reputation as a radio entertainer.

"We like broadcasting," said Archie. "It is chery work, especially if the announcer has a bright smile on his face." I have been in several humorous situations whilst appearing 'over the air' in Australia, but none appealed so much to me as one which happened in Natal during our recent tour of South Africa.

"Wattie and I visited during the week a kaffir kraal, and, being keen photo-hunters at the time, we asked the natives if they would dress up in their best dress, warpaint and all, for us, if we brought our cameras out to the kraal on the following Sunday. This they consented to do, and on the Sunday Wattie and I embarked for the kraal laden with cameras and film, anticipating some gaudy specimens of grass dresses, fancy headgear, and brown bead-bedecked bodies. Imagine our surprise and disgust when, on entering the kraal, the natives came forward with their usual child-like, full, smiles to greet us. They were all dressed in blue serge suits and trilby hats!

"We thought at first," Archie went on, "that our act would lose some of its attraction 'over the air,' as on the stage I appear as a dashing army officer, and Wattie is the perky little

Below: Professor Berry, who is giving an interesting series of travel talks from 3AR.



Centre: Mr. Sydney Hollister at 3LO.

Above: Miss Virginia Perry as Margot in the "Destrt Song," heard recently from 3LO.

middy. However, we found that we had under-estimated our listeners' intelligence, and that they were quick to grasp the idea of the act was soon evident in the many appreciative letters which we received."



GRAHAM AND WATTIE.

Popular Banjoists

THE many friends of Marlon Lightfoot will be glad to know that she is returning to 3LO on Saturday, December 15, with her banjo, ukulele, and steel guitar, not to mention her very fine soprano voice, which will be heard in popular melodies. Miss Lightfoot, who comes from a well-known Australian musical family, completed her training in England, studying the banjo under such world-famous masters as Essex and Cammeyer, afterwards appearing in vaudeville with conspicuous success. She is most popular with listeners throughout Australia, and never fails to please with her well-rendered items.

What the Screen Grid Valve Holds for the Future

Despite the great deal which has been written about these valves since their appearance this year many readers are still ignorant of their use. The following article outlines the tremendous influence they will have on future set construction and design.

By DON. B. KNOCK
(Associate Technical Editor)

A LONG period elapsed between the time the screen grid valve made its appearance in overseas wireless journals and the time it was introduced to the Australian market. No time was lost, however, in explaining the advantages of this valve as soon as it was made available, and, quite naturally, readers began to ask, "What ARE the advantages of this apparently interesting valve?"

Since it was my pleasure to examine thoroughly the possibilities of the screen grid valve, and to pass the information on, all who understand the ins and outs of radio frequency amplification are now well "au fait," and realise the influence this valve will have on future set design. The only reason why there has been a tendency to "dodge" the screen-grid valve is because it was something new, and therefore something to be considered with deference until it was proved.

American and British trade journals show that the screen grid valve is almost exclusively included in sets for the future, and that the manufacturer disregarding these valves is going to be sadly "left."

Almost every commercial factory has experimental receivers incorporating the screen grid valve in the laboratory, undergoing exhaustive tests preparatory to placing them on the market. When this happens the public which buys commercial productions will enjoy reception such as it thinks impossible with apparatus of simple appearance.

Many earlier articles on the subject of the screen grid valve were partly misleading. But, even though the actual performance may fall short of this lauded behavior, yet the technical possibilities of the valve are extensive. The best way to consider these possibilities is to think of what was relatively a good performance for an R.F. amplifier a year or two ago.

A well-designed neutralised R.F. amplifier gave an amplification of

about 7 or 8, and the selectivity was often very poor. The most careful shielding was essential to get the most from such an amplifier, and the question of stability was often doubtful. Even the introduction of a valve with only the same amplification gain, but with self-neutralising properties, would have been a great advantage. To-day we find that those who are still pessimistic about the screen grid valve will admit readily that an average amplification of 20 per stage is usual. Where, then, is the doubt?

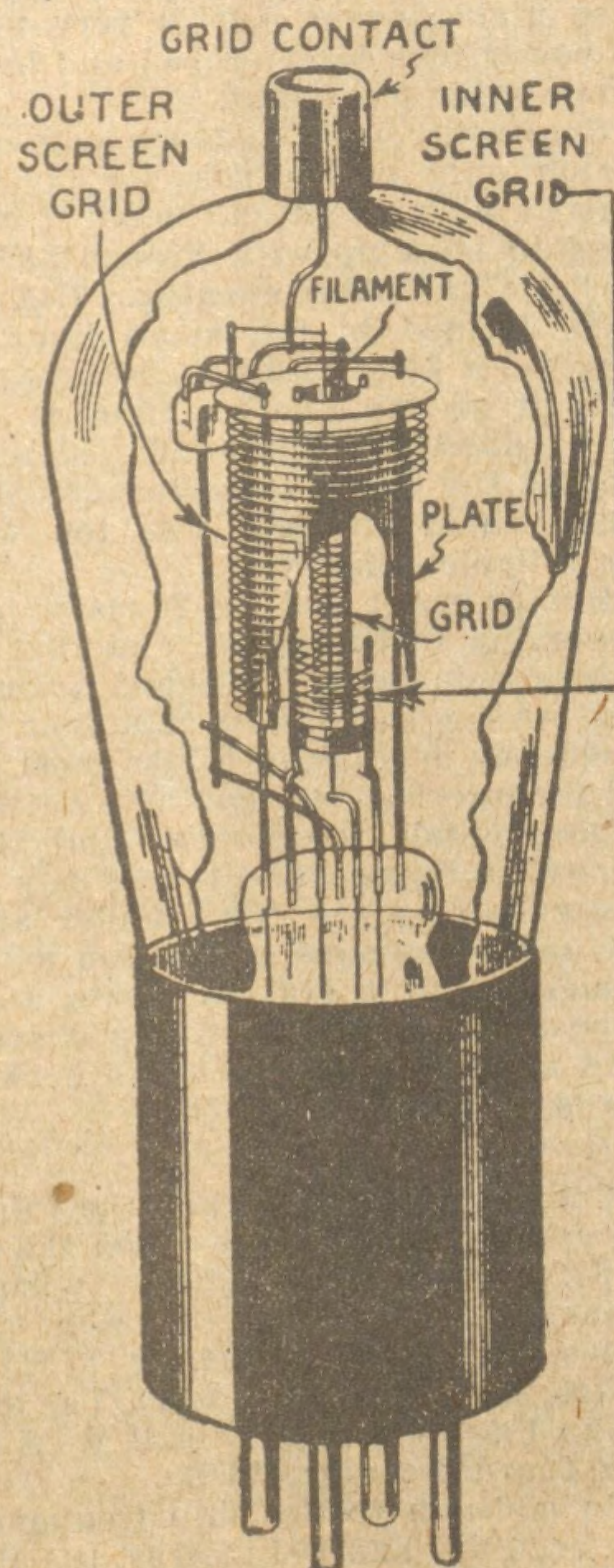
Even at an amplification of 20 per screen grid stage, it is twice that obtained from so-called good radio frequency amplifiers last year!

To use this increased gain effectively we must pay more attention to

the question of selectivity, but this does not present any immediate difficulties which may not be easily overcome. The method of coupling the stages is of primary importance in controlling this, and the tuned anode coupling with variable tapings will give better selectivity than the usual transformer coupling.

One reason why the screen grid valve was so long delayed was because of its physical construction. They are difficult valves to manufacture, and in consequence were not at first manufactured on a large scale. Now they are available on the Australian market in quantity, and it is safe to say will always be so.

For those who are interested in the "All Electric" set, the A.C. screen grid valve will be of primary interest. It has previously been considered poor practice to use a shortwave receiver with a B eliminator for the high-tension supply, but in some cases reports are to hand of the entirely successful application of B eliminators for this purpose. Now we learn from America that a shortwave receiver using A.C. valves throughout (including A.C. screen grid amplifier) and a B eliminator has been developed, and is giving far superior results to the D.C. shortwave receiver we now know. In view of the steady onward march of shortwave international broadcasting this information is particularly interesting. The results obtained up to the present time with screen grid valves are such that a more exhaustive inquiry into their performance is worth while, and one may be well assured of the complete acceptance of the screen grid valve within the space of a year.



A PLEASING feature of the musical programme broadcast from 3LO on December 12 will be the duet, "Nocturne" (Fleischmann), arranged for flute and 'cello, which will be played by Joseph Barille and Tasma Tiernan. Both these talented musicians are members of the Station Orchestra, and well-known to listeners for their excellent solos, which are a weekly feature of the programmes.

WHAT ARE THE SHORT WAVES SAYING

(By DON B. KNOCK, OA-2NO.)

THE most interesting transmissions audible here recently have been the duplex telephony tests between Amalgamated Wireless through station 2ME and W2XAF (New York) and ANE (Java). Many broadcast listeners using short-wave receivers must have heard these conversations, and on tuning in W2XAF have been probably confused to hear only one end of the conversation. One really needs two receivers to listen to a duplex transmission in its entirety, as it is out of the question to swing your tuning condensers from one station to another at the higher frequencies.

W2XAF has been often maximum strength, and seems to reach a peak about 9 p.m., Sydney time. It is possible to hear him at full speaker volume at times, very much in the same way as I hear 2BL.

ANE (Java), on 15 metres, is often very good, but this station suffers from intense high speed fading, which gives the carrier wave and modulation a constant fluttering.

2ME on 28.5 metres is never very strong at my location, due to my being in his skip area. W2XAF on 32.7 is unfortunately within the present band of wavelengths used by Australasian experimental transmitters, and at times he is badly heterodyned.

The new regulations, effective from January 1 next, will probably solve such difficulties.

Experimental stations have no wish to cause interference to commercial organisations, but at the present time it is unavoidable, as so many commercial stations are within the present experimental bands. At the same time, when the new frequencies are in use, experimental organisations will expect the "big fellows" to respect their territory.

PCJJ seems to be far below his usual strength at present, while 5SW England is improving. On Thursday night, 11 p.m. Sydney time, I was able to put 5SW on the speaker at medium strength, and once again hear the familiar tones of Big Ben and the Greenwich time signal.

3LO on 32 metres is working nightly at the present time, and comes through with terrific strength most nights. The transmission is more powerful than on the normal broadcast waveband, but at times is marred somewhat by a high cycle hum.

7LO Nairobi is now to be heard on 33 metres occasionally, and is about the strength of 5SW.

Quite a number of Australian experimental stations are to be heard putting out good telephony between 32 and 33 metres. Prominent among these are 7DX Hobart, 2HC Quirindi, 2ZN Coogee, and sometimes 2HM Bondi. Mr. Marshall still retains his yarning propensities, as in the 200-metre days of yore.

Static trouble is intermittent, and most evenings is so bad as to render anything but a strong signal out of the question.

Wednesday evening, November 21, was perfectly free from static on all wavebands, and on taking a look over 80 metres I found 2TY Maitland on telephony working with a New Zealander. 2TY was extremely strong. The 80-metre band is ideal when these rare nights occur, but is very prone to power leak interference and broadcast station harmonics.

Spasmodic long distance communication only seems possible on 32 metres at present, although I managed to hook up with French 8FD at 5.30 p.m. the other evening. 7DX and 2NO decided in the small hours of November 22 to make a concerted onslaught on the South Africans, and both called together, and, although two of the South Africans called us both, signal strength was too weak for reliable contact.

Rumor has it that the 20-metre band is coming to life again, and that the Englishmen may be heard about 4 a.m. After the end of this year this frequency is going to be the most useful for international contacts between experimental telegraphy and telephony stations, and it will pay the Australian to get down under again and make the most of it. Ten metres comes to life in fits and starts, and it appears that the American stations 6UR and 1CCZ may be heard between 4 and 11 a.m., Sydney time.

Commander Byrd's ship, the City of New York, has been assigned the call WFBT, while its auxiliary portable transmitter is WFA. Smaller portables are: KFK, 50 watts; WFD, 50 watts; and WFE, 7½ watts. The aeroplane Fairchild has the call WFS and the Floyd Bennett WFB.

In addition to the ship frequencies between 600 and 800 metres, the Byrd

The first article of a series to appear under this heading. Subsequent articles will take the form of a short-wave listeners' log indicating what stations can be received here and giving wave lengths, etc. Every possessor of a short-wave receiver should follow this series.

expedition may use these short waves: 91.2, 68.1, 53.57 (commercial), 53.10, 45.59, 34.05, 26.78 (commercial), 26.55, 22.75, 17.945, 17.857 (commercial), and 13.758 metres.

Short waves do not travel along the surface of the earth like ordinary wireless waves, but are projected into space and are "reflected" by the Heavyside layer. It is this fact that gives rise to the curious "skip distance" effect which causes short-wave stations to be heard better at a greater distance than close at hand.

* * *

Philips Lamps (N.Z.), Ltd., advise the following new schedule of transmissions from PCJJ: Every Wednesday from 4 a.m. to 8 a.m.; every Wednesday from 11 a.m. to 2 p.m.; every Friday from 4 a.m. to 8 a.m.; every Friday from 11 a.m. to 3 p.m.; every Saturday from 4 p.m. to 7 p.m.; every Sunday from 2 a.m. to 5 a.m.

ONE OF THE MOST important events of the Australian musical year will be broadcast by 3AR on December 10, when the concert in connection with the Welsh Delegation Australian Vocal Championship will be transmitted from the Melbourne Town Hall. The Regent Lyric Choir will be heard in vocal selections, and the champions of the various States—including Mr. Eric Jones, who represents Victoria, and who is well known to listeners, will be heard in the "Test" aria, with Mr. William James acting as official accompanist. The adjudicator's decision and remarks, together with the presentation to the Australian champion, will take place at the close of the concert.

New Features in the Programmes

Programmes You Cannot Afford to Miss

2FC FEATURES

THE TESTIMONIAL CONCERT to be given to BEATRICE AINSWORTH on Tuesday night, 11th December, will be broadcast in part by 2FC. The proceeds of the concert will go towards furthering the studies of this gifted young artist. The artists to be associated with Miss Ainsworth are Lawrence Godfrey Smith, Virginia Bassetti, Robert Gilbert, Madame Evelyn Grieg, and Madame Talbot.

ON WEDNESDAY NIGHT, December 12, the programme to be broadcast by 2FC has been arranged by Mr. Howard Ashton, as an example of what is acceptable to lovers of good music. It is Mr. Ashton's contention that classics and jazz should not be permitted to intermingle, and the programme on this evening is devoted entirely to better-class music. Listeners who frankly prefer popular variety are reminded that the programme arranged through 2BL on that evening is along popular lines.

IT IS SOME TIME since listeners had an opportunity of hearing a transmission of sacred music rendered by the St. Francis (Albion Street) Choir, which is conducted by Rev. G. Ellis Herlihy. Father Herlihy's work in the Eucharistic Congress is an outstanding example, not only of his knowledge of music, but of his ability to impart that knowledge. The St. Francis' Choir is a singularly well-trained combination, and the concert on Sunday night, December 9, to be broadcast by 2FC, will be anticipated with pleasure by many listeners.

The choruses include Griesbacher's "Gloria, laus et honor," "Tu es Petrus" (Saimazarro), Gruber's "Kyrie" and "Requiem," "Adoro te" (Chassang), "La Vergine degli Angeli" (Verdi), and the first half of the transmission will conclude with Gruber's "Gloria, in excelsis." After the overture in the second half (at approximately 9.20), the Choir will sing, "O, Sacrum Convivium" (Bentivoglio) and "Sanctus" (Ett), to be followed by Edenhope's "De profundis" and "Magnifica coi sensi" (Chiappain), Perosi's "Mysterium Ecclesiae" and "Christus vincit" (Taverna), and the concluding item will be Gruber's "Te Deum."

The associate artists are Oliver King, Lottie Dearn and Myra O'Neill. The overtures will be rendered by Miss Marie Toohey, organist of the Church.

NANCE MARLEY, who possesses a remarkably fine contralto voice, and who recently won coveted laurels in



The Rev. G. Ellis Herlihy, who has arranged a programme from 2FC for December 9.

the Ballarat Eisteddfod, has arranged an attractive programme for her appearance at 2FC on Monday night, December 10.

ON SATURDAY, DECEMBER 8, a studio production of "Belle of New York" has been arranged by Leo Packer, which will be broadcast through 2FC. The popularity of these tabloid versions of popular musical comedies is growing, and Mr. Packer's work is very acceptable to listeners. A musical programme will be rendered between 8.0 and 9.0, to be followed by the production of the "Belle."

"THE MESSIAH," under the conductorship of Mr. V. Peterson, will be rendered at the Lyceum on Sunday afternoon, December 9. The principals are Elsie Findlay, Bessie Cooke, Oliver King, and Robert Scott. The production will be broadcast by 2FC.

2BL FEATURES

"UNCLE DAVID," the Children's Chaplain, has created the Children's Sacred Session at 2BL, which he will conduct between 6 and 6.20 p.m. The purpose of the session is to encourage the whole family to gather round and listen to a short, simple service, especially for children, but not forgetting something to interest adults as well. There is a certain type of children's service which adults often prefer to that of the heavier type. The session opens with a bright, brief introductory chat to the little folk, followed by some unfamiliar, yet simple, sacred solo or chorus, encouraging all to learn it. A Bible story will follow, conducted along non-controversial lines, together with simplicity which makes the lesson apparent. An old favorite hymn, request if possible, concluding with a simple prayer, especially remembering the sick and distressed, ending with the recitation of the Lord's Prayer and Benediction.

Brilliant Array of Talent at Studios

There is an appeal in the simple little service, which will find ready response in the hearts of many listeners.

AN ORGAN RECITAL has been arranged from St. John's Church of England, Balmain, on Sunday afternoon, December 9, between 3 and 4 p.m. The programme, which is to be broadcast by 2BL, is a very attractive one, and will provide listeners with an hour's music. It will be followed by the pleasant Sunday afternoon entertainment arranged by the Leichhardt Methodist Church.

POPPY PLANT AND PEG PAGE have collaborated in a musical act full of sparkle and variety, and listeners to 2BL will welcome their appearance on Monday night, December 10.

REG AND DAPH, whose daughable work has earned for them the singularly apt sobriquet of "Radio Riots," are busily engaged on brand-new sketches for December 10, and promise 2BL listeners something to look forward to.

ART LEONARD is a decided adjunct to the Savoyans Dance Band, which broadcasts regularly through 2BL. His popular choruses blend very harmoniously with this excellent jazz combination, and provide a pleasing interlude.

3LO FEATURES

AN ATTRACTIVE PROGRAMME of Gaelic folk lore and music has been arranged at 3LO for Thursday afternoon, December 13. The cycle "Songs of the Hebrides," by Margaret Kennedy Fraser, has been included in the programme, and will be sung by Miss Ella Riddell, who is a personal friend of the song writer, and who proposes to sing some of them in Gaelic. To add to the interest, Miss Frances Fraser will give a talk on the origin of the songs, many of which, until Miss Kennedy Fraser started to collect them, had been handed down "by word of mouth" from generation to generation. As Miss Riddell is a past champion vocalist of Scotland, and has devoted much time to the singing of Scotch songs, a very enjoyable time may be anticipated.

THE OLD-TIME community singing session arranged by 3LO, still continues to be a tremendous "draw," and the excellent programmes are thoroughly enjoyed by a very enthusiastic audience, which joins heartily in such old favorites as "The Old Rustic Bridge" and "Two Little Girls in Blue." The next gathering will take place at the Assembly Hall on

December 13. Frank Hatherley will again wield the conductor's baton, while those two popular broadcasting artists, Julia Russell (soprano) and Vida Lugg (mezzo-soprano), will contribute a group of negro spirituals.

LOVERS of Longfellow—the poet who had so much of his work set to music—will be pleased to learn that a “Longfellow-Coleridge Taylor” programme will be given from 3LO on Monday, December 10. The Studio Orchestra, under the direction of Mr. Frederick Hall, will play Coleridge Taylor's “Minnehaha Suite,” Parts 1 and 2; William Tainsh will recite excerpts from “Hiawatha”; and James Hay, of Gilbert and Sullivan fame, will contribute appropriate selections.

ON TUESDAY, December 11, a studio performance of the evergreen musical comedy, “The Runaway Girl,” will be given from 3LO. Miss Florence Blitz, who has become quite

popular with listeners in musical comedy roles, will portray the role of Winifred Grey, and included in the cast are Merele Griffin and John Donovan, who recently made such a good impression in the studio presentation of “Lilac Time.” As “Flipper,” Mr. Alan Bell will provide the touch of comedy; Madame Ethel Ashton is musical directress; and the production is in the capable hands of Maurice Dudley.

3AR FEATURES

A COMBINED organ, vocal, and choral recital will be broadcast by 3AR on Thursday, January 13. Organ solos, “Toccata in G” and “Andante” (Lemare), will be given by Mr. J. Sutton Crow; Mr. Alan Eddy will sing “Like as a Hart Desireth” and “On Wings of Song”; while the Auburn Street Methodist Choir, under the baton of Mr. Crow, will render the Shadow Chorus from “Orpheus.”

A PLEASING programme of vocal music has been arranged by the popular Sundowners' Quartette, who are on 3AR's programme for Tuesday, December 11. Their concerted items will include two old Irish melodies arranged as quartettes—“Believe me if all those endearing young charms” and “Kitty Magee”—while the sonorous bass voice of Robert Gillard will be heard in two favorite numbers, “Old Barty” and “Tommy Lad.”

2UW FEATURES

INTERESTING features of 2UW's transmission during the next few weeks will be the talks of Mr. G. C. Barnes, of the Physics Laboratory of the Sydney University, and of Mr. A. T. Keeble, B.Sc., Science Master of the Sydney Grammar School. Mr. Barnes, who has for many years been a keen psychic researcher, will tell some “Real Ghost Stories”; and Mr. Keeble will once more entertain with his “Science from a Radio Armchair” talks.

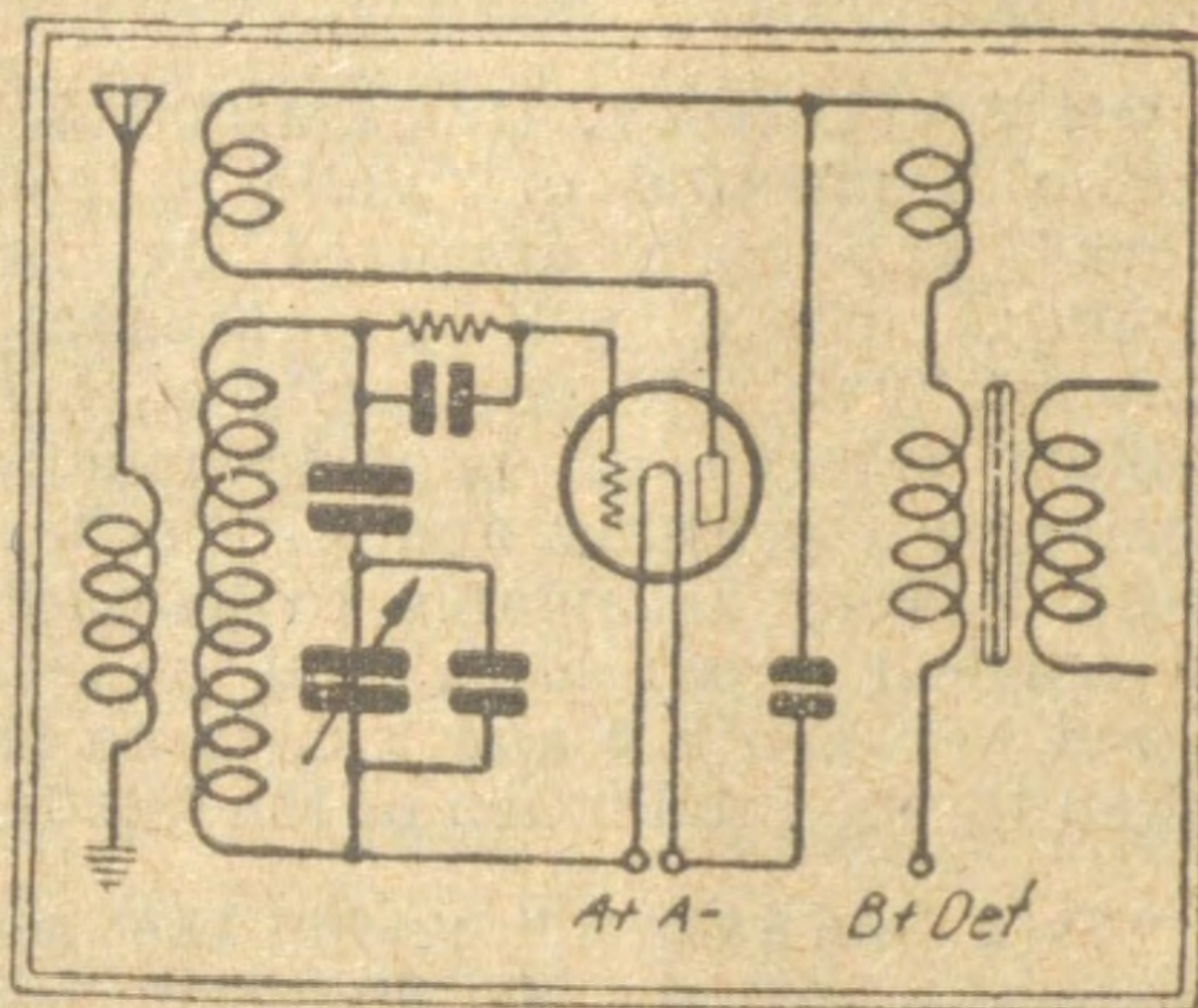
Verniers are Needed on Short-wave Receivers

NOW that amateur hands have been cut, the necessity for getting a greater vernier effect on tuning has been increased, due to the greater crowding. There are two types of verniers in use, that is, mechanical and electrical. Certain limitations prevent a greater usefulness of the mechanical system on the short waves. When we use a mechanical vernier on the short waves, we are actually at the same time using an electrical vernier, that is, if we use a slow motion dial for our vernier, our body capacity also plays the part of a vernier. It is also true that generally the body capacity plays the greater part, and, consequently, the mechanical vernier is not of much use.

As for electrical verniers, the situation is almost as bad. Of course, the best vernier is to cut down tuning capacity, but if we cut down tuning capacity in order to overlap on bands, we have to use more coils, which is not an especially desirable feature. Also we have body capacity entering in, which will add confusion. The solution really is one which will allow a vernier effect and also will not allow body capacity to interfere a great deal.

In the illustration we have a short-wave set with an added feature of a fixed condenser on the high-voltage side of the tuning condenser, and also a shunt condenser. The first advantage that presents itself is that we are putting the short-wave tuning condenser at a lower potential to ground, and, consequently, minimising body capacity effects. As to the other advantages, let us go back and remember a few formulae. The one we want is for capacities in series, and that is:

$$\frac{1}{C_t} = \frac{1}{C_1} + \frac{1}{C_2}$$



or the reciprocal of the total capacity is equal to the sum of the reciprocals of the separate capacities. However, what does this mean in our case? Let us assume our tuning condenser to vary in capacity from 10 mfd. to 100 mfd. If we place a fixed condenser of 100 mfd. in series with such a tuning capacity, the resultant tuning capacity will then be not from 10 mmfd. to 100 mmfd., but from 9 to 50 mmfd. This means that instead of having one dial division to a mmfd., we will have two dial divisions per mmfd., or, what is the same thing, we have broadened the band. We can, therefore, see that it is possible to get a greatly increased vernier effect by simply adding a fixed series condenser. To get even more vernier effect than the above, let us put 50 mmfd. in series. Our tuning capacity will then vary from 8 to 33 mmfd., which means that we have more than doubled our ease in tuning.

If we desire a vernier effect around 75 mmfd., we will not get much of a vernier effect using only a series connection, but we can get any desired vernier action anywhere by a combined shunt capacity and series capacity. For illustration, let us take our

original tuning capacity of from 10 to 100 mmfd. We wish to get a vernier action around 75 mmfd. Of course we really mean, not 75 mmfd., but some certain wave length which corresponds to that capacity when used with a coil. We may want the vernier to be such that the tuning capacity will be within 5 mmfd. from 75 at each side. Remembering that capacities in parallel are added, and knowing the formula for series capacities after a few cut and try calculations, we obtain the desired capacities. In the case considered, if we place about 200 mmfd. fixed capacity in parallel and use 110 mmfd. in series, we will get a tuning effect ranging from about 72 to 80. It is possible to obtain any desired selectivity by using such a combination, and in practice we have been able to take a CW signal and listen to its heterodyne beat note vary from low to high on the full 100 divisions of the tuning dial. While that is not generally usable, nevertheless, we can obtain any desired selectivity in between the above case and that of the normal case, where the CW signal covers a minute portion of the dial.

G.B. LISTENERS

AT the end of July there were 2,511,736 broadcast receiving licenses current in Great Britain.

“QUID” PRO QUO

THE radio fan who asks for a 60-volt battery and gets one that gives 63 volts or 66 may think he is getting something for nothing.

AT England's famous prison, Wormwood Scrubbs, a class of sixty prisoners follows the educational talks of the British Broadcasting Corporation.

TRADE NOTES

PACENT PHONOGRAPH PICK-UPS.

MESSRS. MICK SIMMONS, Haymarket, advise that they have added the "Pacent" Phonovox and Phonolink to their already extensive selection of Bosch phonograph pickups.

With either the Pacent or the Bosch Recreator attached to any model or style of phonograph, coupled to a good receiver, it is possible to reproduce with amazing realism the tonal shadings of a great orchestra, the deep bass of the Wurlitzer organ, the soaring treble of the singer, and the clear singing tone of the solo instrument. Volume by a simple control can be increased to the intensity desired, or reduced to the veriest whisper.

STROMBERG-CARLSON TREASURE CHEST.

THIS new Australian receiver, introduced to the buying public only a couple of months back, is finding great favor amongst those looking for a quality six-valve receiver at a moderate price that will bring in all stations.

This moderately-priced receiver is being produced in Australia, and is the first completely-designed chassis-built set made here.

The workmanship of the receiver is equal to anything produced in America or England to-day, and speaks highly for Australian craftsmanship. It is built in a handsome steel cabinet, with a brown crystalline finish, and various models are made, to accommodate either batteries, or, in the case of electrical models, power equipment. The name of the receiver is "The Treasure Chest." Variable condensers are of the same pattern and solid construction as the regular Stromberg-Carlson receivers. These condensers are assembled in a precisely-made jig, in the same way as a precision measuring instrument would be made. The condensers are linked together with solid steel shafts, and bolted to chassis with steel brackets. The condenser tuning is of the drum type, with positive pinion drive, while the valve sockets are of the positive spring contact type, and securely balanced on a cradle to avoid microphonic troubles. The shielding cans are of solid drawn copper, which cover specially-designed radio frequency coils, wound on highest quality insulating tubes. Cossor valves are used throughout.

Audio transformers of the same design and characteristics as the regular Stromberg-Carlson "Treasure Chest" give uniform amplification over the full range of musical frequencies, and are well suited for power reproduction.

The meter stand is a special feature which is not found in other receivers—namely, a three-jack socket into

which may be plugged a Jewell double-reading voltmeter, which instantly indicates the condition of the "A" and "B" batteries. This meter may be purchased with the receiver or separately at a later date.

Battery consumption has been an important consideration, and, by the use of "Cossor" valves, which are supplied as standard, the "A" battery consumption has been reduced to a little more than half an ampere, which means longer service with the accumulator before recharging. The "B" battery consumption has been reduced to a minimum to secure the longest possible life from "B" batteries.

RADIOKES, MELBOURNE.

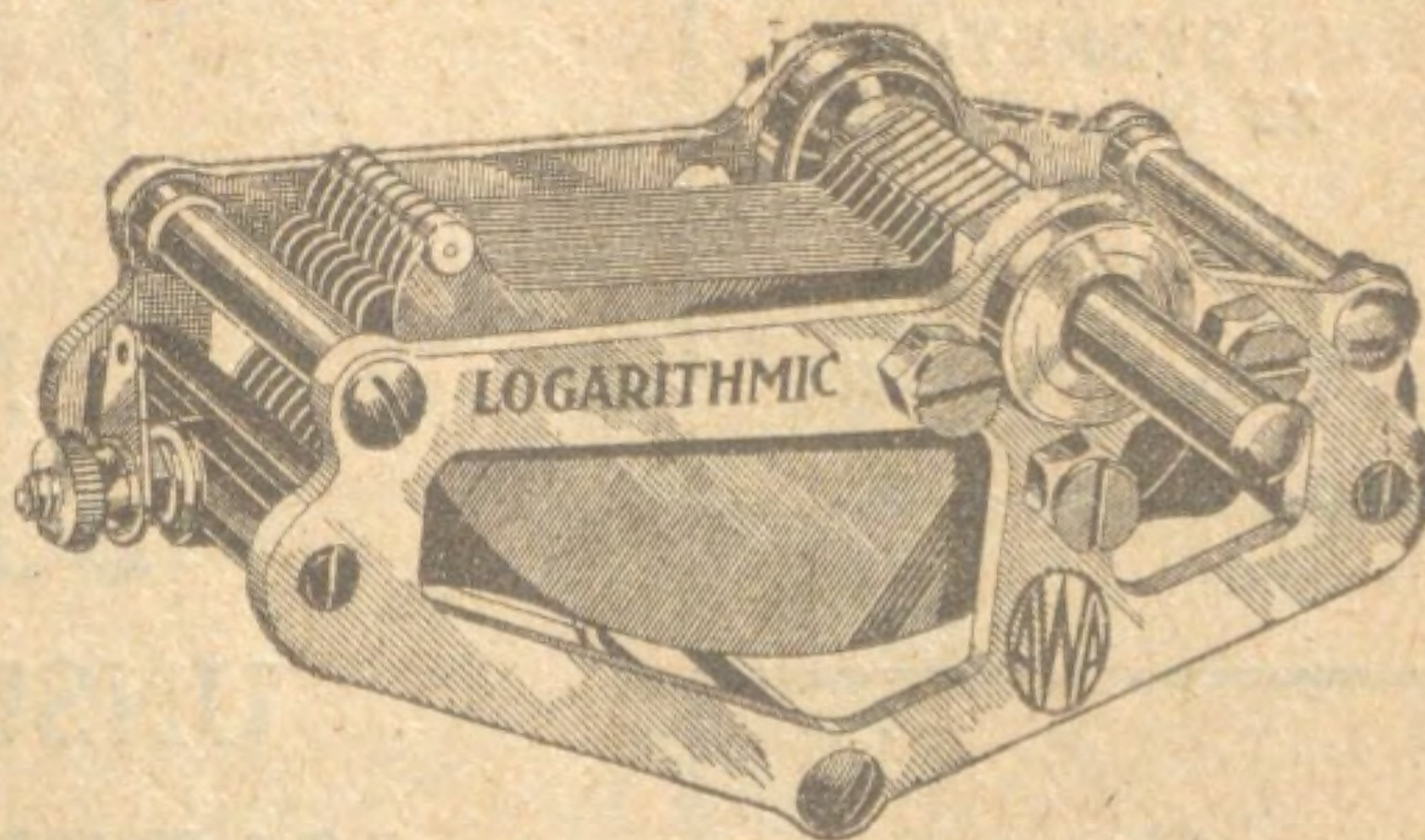
THE popularity justly enjoyed by the now famous Radiokes line of radio frequency equipment has decided the manufacturers, the Metropolitan Electric Co., Ltd., that, in order to give users of their products proper Radiokes service, a Melbourne office would be imperative.

Mr. Donald N. Gow, the firm's interstate representative, in conjunction with Mr. John P. Taylor, has recently established the southern headquarters at York House, Little Collins Street, Melbourne. This building is centrally situated with regard to radio traders, and this office will control the Radiokes line in Victoria, South Australia, and Tasmania.

Mr. Gow, after a very successful stay in Melbourne, has returned to head office, and left Mr. Taylor to carry on in his new capacity of Radiokes southern manager. Mr. John P. Taylor is a very capable business manager, who has been closely associated with radio since its inception in this country. As far back as 1912 he was associated with Mr. Gelston S. Gow, Radiokes technical director, in the operation of the earliest military radio sets in Australia.

The year 1914 found Mr. Taylor a member of the A.I.F., and after three years' active service he was invalided home as a result of war wounds. Early he realised the commercial possibilities of radio, and as far back as 1923, when broadcasting was being introduced into this part of the world (per medium of sealed sets), he was appointed to managership of a large Sydney wholesale radio house, and in that capacity for years represented that firm at many important conferences.

Since the war, right up to the present time, Mr. Taylor has been consistently concerned with the merchandising of radio products. With the rank of captain, he has commanded various radio detachments of the Signal Corps, in the Second Military District.



THE NEW LOGARITHMIC CONDENSERS.

WE have received a sample from Amalgamated Wireless (A'sia), Ltd., "Wireless House," 47 York Street, Sydney, of their new A.W.A. Logarithmic Condenser, designed and manufactured at their Radio Electric Works, Knox Street, Sydney. This new variable condenser is manufactured in four sizes—namely, 7 plates (.0001 microfarads) and 13 plates (.00025 microfarads), 17 plates (.00035 microfarads), and 23 plates (.0005 microfarads). It is so designed that when tuning it follows a true logarithmic scale throughout. This logarithmic (square law) characteristic makes it ideally suitable for one-dial control receivers where one, two, three, or even four condensers are ganged and operated from one dial. For this purpose one of its features is its hollow spindle, which enables the short single condenser spindle to be removed and replaced by a spindle of suitable length for the number of condensers to be used.

Insulation material (genuine bakelite) has been reduced to an absolute minimum, there being only four small parts composed of this material. On two of these are mounted the terminals, one at either side of the condenser and two bakelite bushings which insulate the moving plates from the end plates. The metal in the end plates has also been greatly reduced, as can be clearly seen from the illustration. All the metal parts of the A.W.A. Logarithmic Condenser have been silvered, giving the whole instrument a most attractive appearance. Soldering lugs are also fitted to the terminals.

As this new condenser has been designed to meet the new preference for gang condensers, single-hole mounting has been dispensed with, and strength and firmness have been ensured by providing for a three-hole mounting. The action of the condenser can be made either clockwise or anti-clockwise through the simple expedient of loosening the spindle and adjusting it so that the knob can be attached at alternate ends.

The complete job is extremely sturdy, and incorporates all the approved low loss principles, has a firm and reliable action, which, combined with soldered connections (including a pigtail connection to the moving plates), places it among the best condensers we have seen.

SYDNEY:
25 New Royal
Arcade
(Near Palace
Theatre).
'Phone: M6138.

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OR BUILDING
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YEARS

OF

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IN RADIO

TECHNICAL ADVICE

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BY OUR STAFF

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Customers
Now
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From
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Kit of
Parts
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'Phone: New. 1622.

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Small
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of the
Following
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.00037
15/-
.00014
25/-

THE ECONOMIC RADIO STORES

Some Parts for Pentavox as described in this issue:

2 Aluminium Panels, 18 x 7, at 2/3	4 6	1 Radiokes RF Choke	8 6
2 Airzone Sub-panel Brackets	3 6	1 Philmore 30ohm Rheostat	2 0
1 Radiokes Aerial Coupler	1 5 0	1 400ohm Potentiometer	4 6
1 Radiokes Split Secondary Coil	1 5 0	3 AWA UX Anti-vibration Sockest, 3/-	9 0
2 Eco .0005 Condensers, 7/6	15 0	1 Philips A442 Valve	1 10 0
1 Ferranti AF3 Transformer	2 5 0	1 Philips Penthode	1 17 6

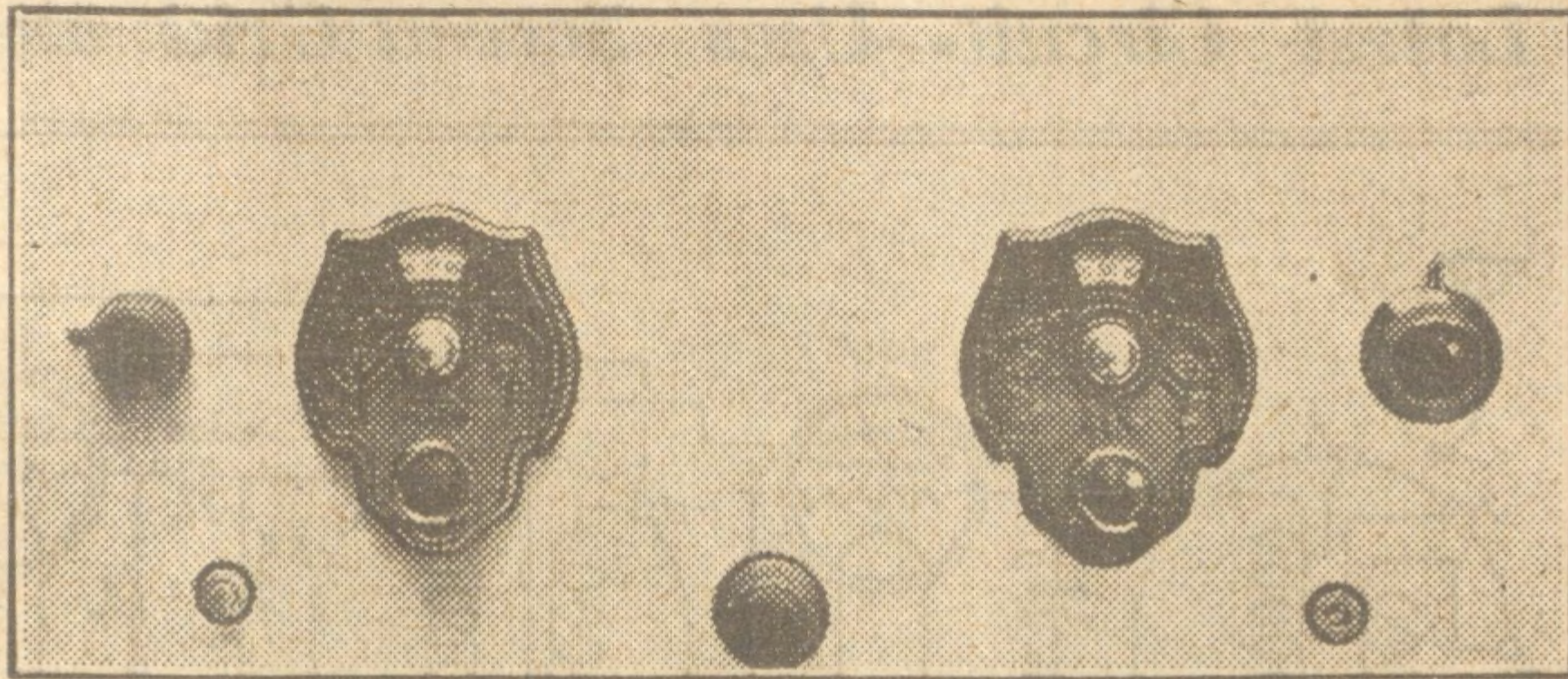
Parramatta:
Cnr. Church &
Macquarie Sts.
'Phone:
UW9601.

The Economic Radio Stores

Orange:
120A Summer
Street.
'Phone:
Orange 735.

The front panel of the Pentavox, made of polished aluminium.

The



PENTAVOX

This set is typical of future design. The average performance is, due to the screen grid and penthode valves, superior to the usual 5 valve receiver employing two stages of neutralised R.F. amplification. Volume and selectivity are excellent and inter-State stations are tuned in without difficulty.

By

DON. B. KNOCK

(Associate Technical Editor)

WE have really every reason to simplify design instead of complicating it. A resume of development during the past year illustrates this.

Recent developments have been of such a nature as to reduce the number of valves used in up-to-date sets—yet there has been no sacrifice of efficiency by so doing. Screen-grid valves made their appearance, some with an amplification factor as high as 1000. If properly applied, one screen grid radio frequency amplifier far surpasses two ordinary three electrode R.F. amplifiers of the neutralised or “suppressed” type in overall amplification before the detector. This point, I think, is realised generally by those who are using these valves.

Who, after using a set, such as the 1928 Solodyne, for instance, would be content to revert to the standard neutrodyne? Of course, the 1928 receiver referred to uses two screen grid R.F. amplifiers, which makes the comparison really unfair. The fact remains that even one S.G. valve will allow a better performance than two ordinary neutralised stages, if—as I said before—it is used correctly.

Let us turn to the other end of the receiver—the audio amplifier. There was room for development here also. Transformers were placed on the market which made the frequency curve of some of the alleged “good” transformers look like a dog’s hind leg! Output devices were introduced—to prevent overloading of loud speakers. Power valves were improved—then

- 1 Aluminium Panel, 18in. x 8in. (14-gauge).
- 1 Aluminium Sub-panel, 17½in. x 8in. (14-gauge).
- 2 Benjamin Sub-panel Brackets.
- 1 Radiokes Solodyne Aerial Coupler.
- 1 Radiokes Split Secondary Coil.
- 2 JB (Jackson) Variable Condensers, .0005 SLF.
- 1 Ferranti AF3 Audio Transformer.
- 1 Radiokes R.F. Choke.
- 1 30-ohm Rheostat.
- 1 400-ohm Potentiometer.
- 1 Filament Switch.
- 1 Wetless .0001 19-plate Midget Variable Condenser.
- 1 Wetless Type B .00025 Grid Condenser.
- 1 5 Megohm Grid Leak, with Clip Mounting.
- 3 UX Anti-Vibration Valve Sockets.
- 2 Pilot Vernier Dials.
- 12 Terminals.
- 1 Single Circuit Jack.
- 1 Philips A442 Screen Grid Valve.
- 1 Mullard PM4 Valve.
- 1 Philips B443 Penthode Valve.
- 150-Volt “B” Battery.
- 15-Volt “C” Battery.
- Battery Cables, 18 Tinned Copper Wire, Insulation, Screws, etc.

super-power valves, and then came the recent addition, which may be termed the King of Power Valves.

This is the Penthode valve, which may be correctly described as a screen grid, and is of a design which makes it the only audio stage necessary for average requirements. It has three grids, which are rated to deal with excessive volume. The grid pin of the UX valve socket is the orthodox grid connection, and a screw terminal on the side of the valve case connects with a second grid. There is the third grid which has its own connection internally and independently—so you may forget about this one. Before going any farther—the valves used in the Pentavox are:—

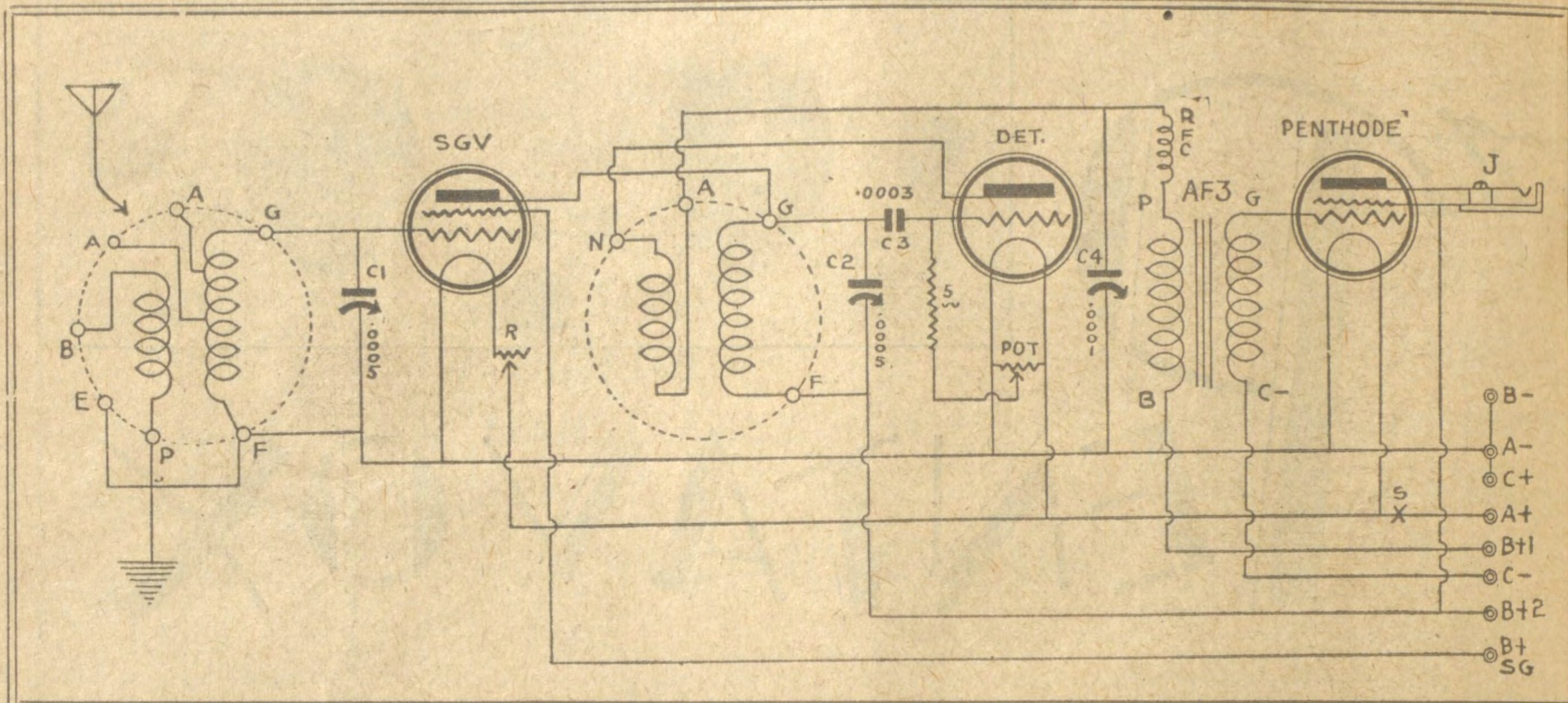
1. The Philips A.442 screen grid R.F. amplifier.
2. The Mullard PM4D detector.
3. The Philips B.443 Penthode (or screen grid audio amplifier).

The B.443 is the valve I have just briefly referred to. Its immediate advantage is not only in the very high amplification possible—but the fact that the R.F. or alternating current, passing through the loud speaker windings, is quite independent of the audio or tone frequency. This means that the loud speaker will be actuated by all audible frequencies.

It is only a matter of using the right grid biasing and plate voltage to ensure that the volume—no matter how heavy—will remain quite free from distortion.

After saying this—I do not expect you to try using the Penthode with a

Latest Circuit--Uses Screen Grid and Penthode Valves



doubtful 90 volt B battery and $4\frac{1}{2}$ volts grid bias. The best results are obtainable only with a plate voltage of from 120 to 150 volts, and with a negative bias of 15 volts. Considering that many types of three electrode power valves need a much higher grid bias, this is an economical feature. At the same time, the Penthode may be used as an ordinary audio amplifier by leaving the screw terminal on the side unconnected. Using the valve as it is intended—the voltage for this connection is normally the same as the plate, but may be varied a little.

There are already various other types and makes of screen-grid valves on the market here, the Osram S625, Radiotron UX222, and the Cossor SG210, and, in addition, there will shortly be available other Penthodes. These will be the Osram Penthode, the Mullard Pentone, and the Cossor Quintode, so that one will be able to build the Pentavox type of receiver with a variety of valves, and each combination capable of remarkable results.

In my last article I made a plea for quality first, and local programmes. Although the Pentavox is a "distance-getter," it is not lacking in the quality point of view. This is because the Penthode is used with a transformer admirably suited to it.

Yet again, I give readers another all metal receiver. There is not any vital necessity for this, as having any relation to the behaviour of the set—but the wiring is simplified considerably by building the assembly on a metal instead of a bakelite chassis. The elimination of a lot of wiring results as the metal chassis forms the connecting medium for the A negative, B negative, C positive, and earth. For coupling the aerial via the R.F. amplifier, a Radiokes Solodyne antenna coupler is used.

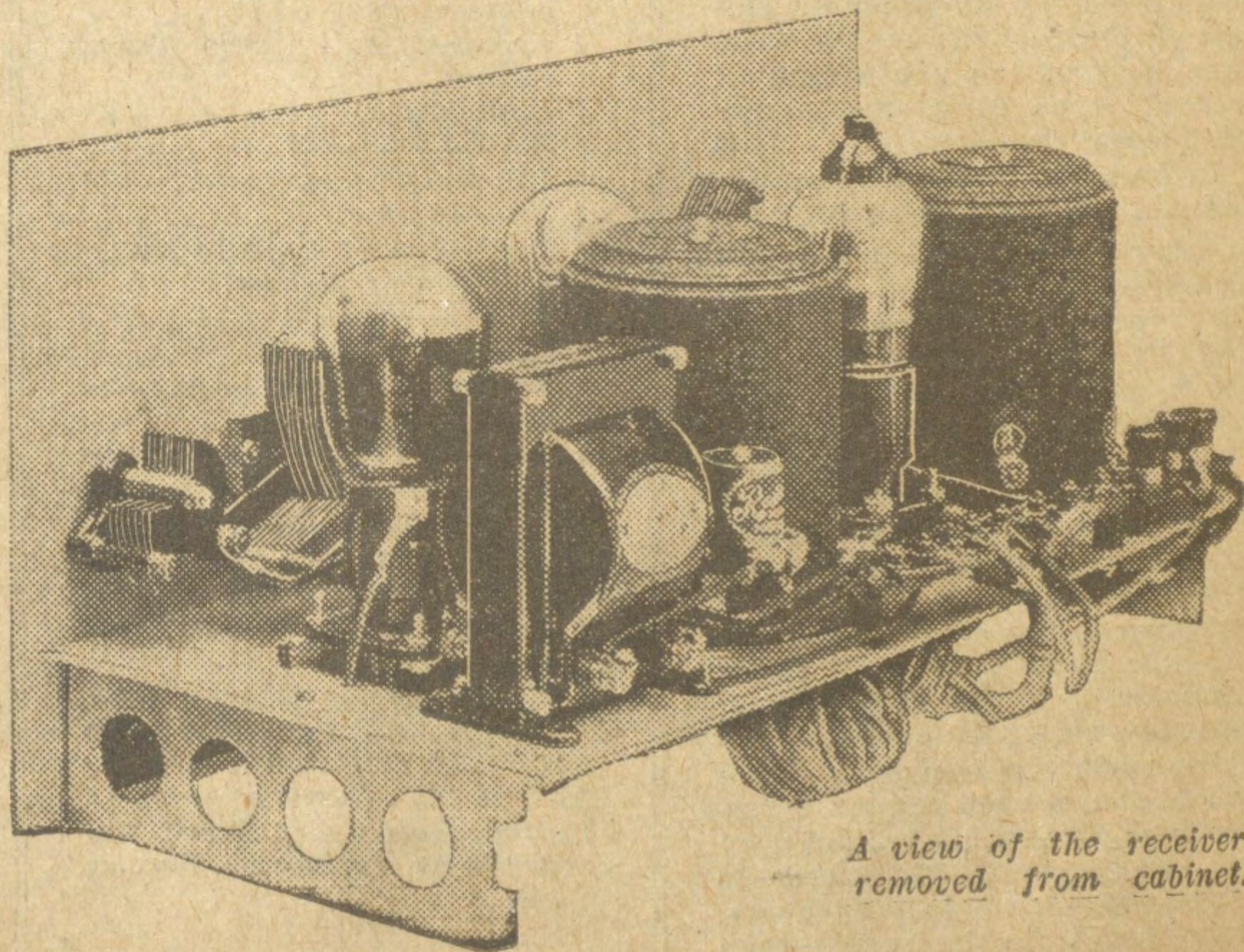
All "Wireless Weekly" readers are

familiar with the Radiokes Solodyne Coil Kit which achieved such popularity, and this unit is the first one as used in that coil kit. The diagrams show how it is used, the connection being clearly indicated, with provision for three separate aerial terminals. The coil unit for the tuning of the detector circuit, and the coupling of the R.F. valve is also a Radiokes screened coil. This is the split secondary type, but is used in one of two ways.

It will be seen from the diagrams that only one half of the secondary is used in the grid circuit—this being tuned by a .0005 variable condenser. The other half of the secondary is pressed into service as the reaction coil. The primary of this split secondary coil unit is unused. In this manner, the tuning range of the detector

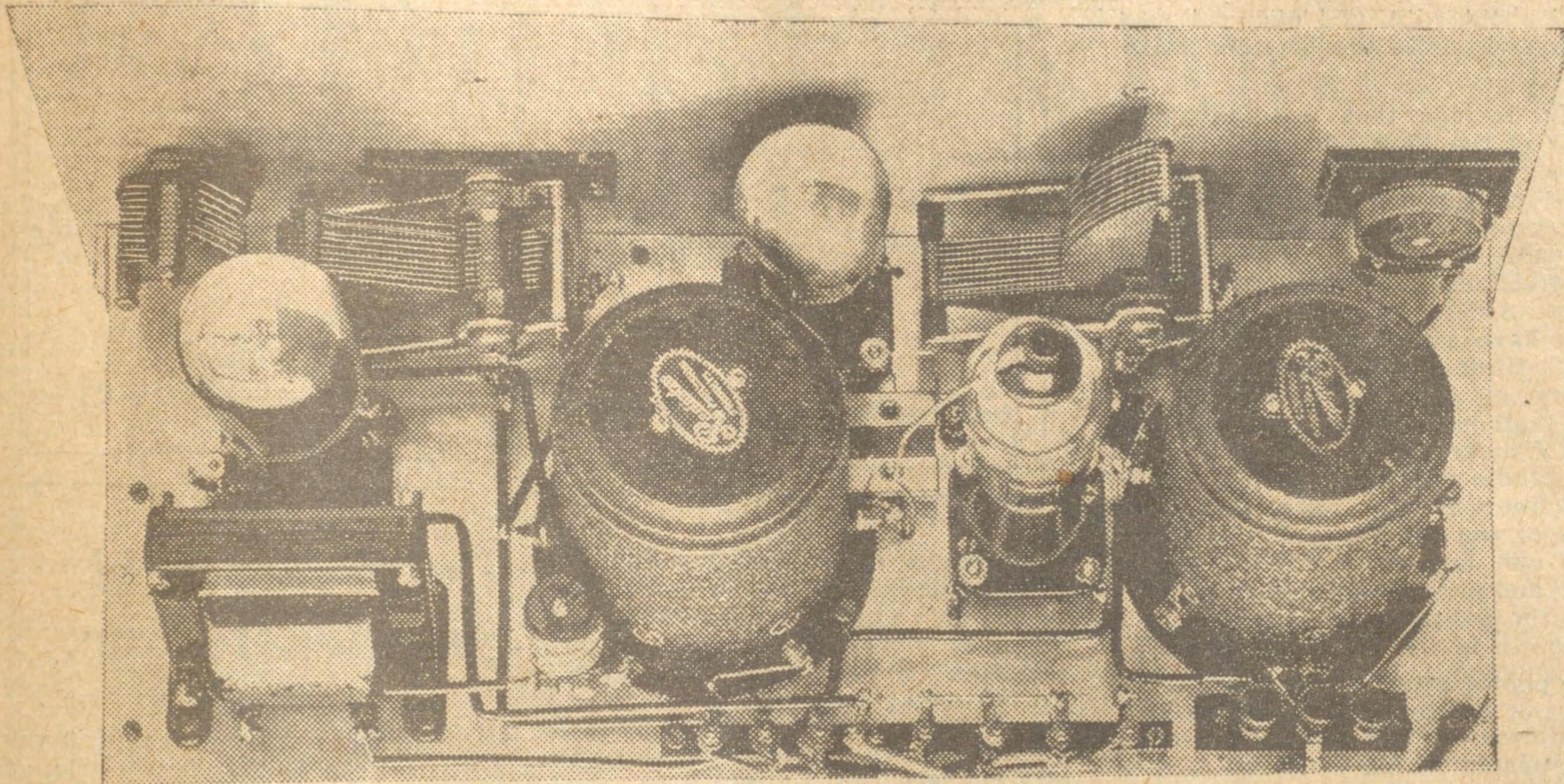
circuit, when shunted by a .0005 straight-line frequency variable condenser, is from 200 to 442 metres.

If it is desired to extend the range above 2FC, the whole of the secondary should be used by joining together the terminals marked F and A, and then using the primary as the reaction coil. I use the range from 200 to 442 metres with half the secondary, as I find the most interesting transmissions lie within. There are many experimental stations operating between 200 and 250 metres in the late evening. These include many prominent Victorian experimenters, such as 3BY, 3RI, and 3BH. In New South Wales you will find 2SX, 2OG, 2HH, and my own station, 2NO, occasionally. All these stations are irregular, and are not broadcasting stations in any sense. Listeners will find a welcome diver-



A view of the receiver removed from cabinet.

Aluminum Panel and Sub-panel Facilitate Wiring



sion at times by listening to these experimental transmissions.

A good sensitive receiver is needed to pull in these low power transmissions at any great distance, and the Pentavox will probably be interesting to many from this viewpoint. The variable condensers used in this receiver have been referred to previously in recent articles. They are JB (Jackson condensers), and are now ob-

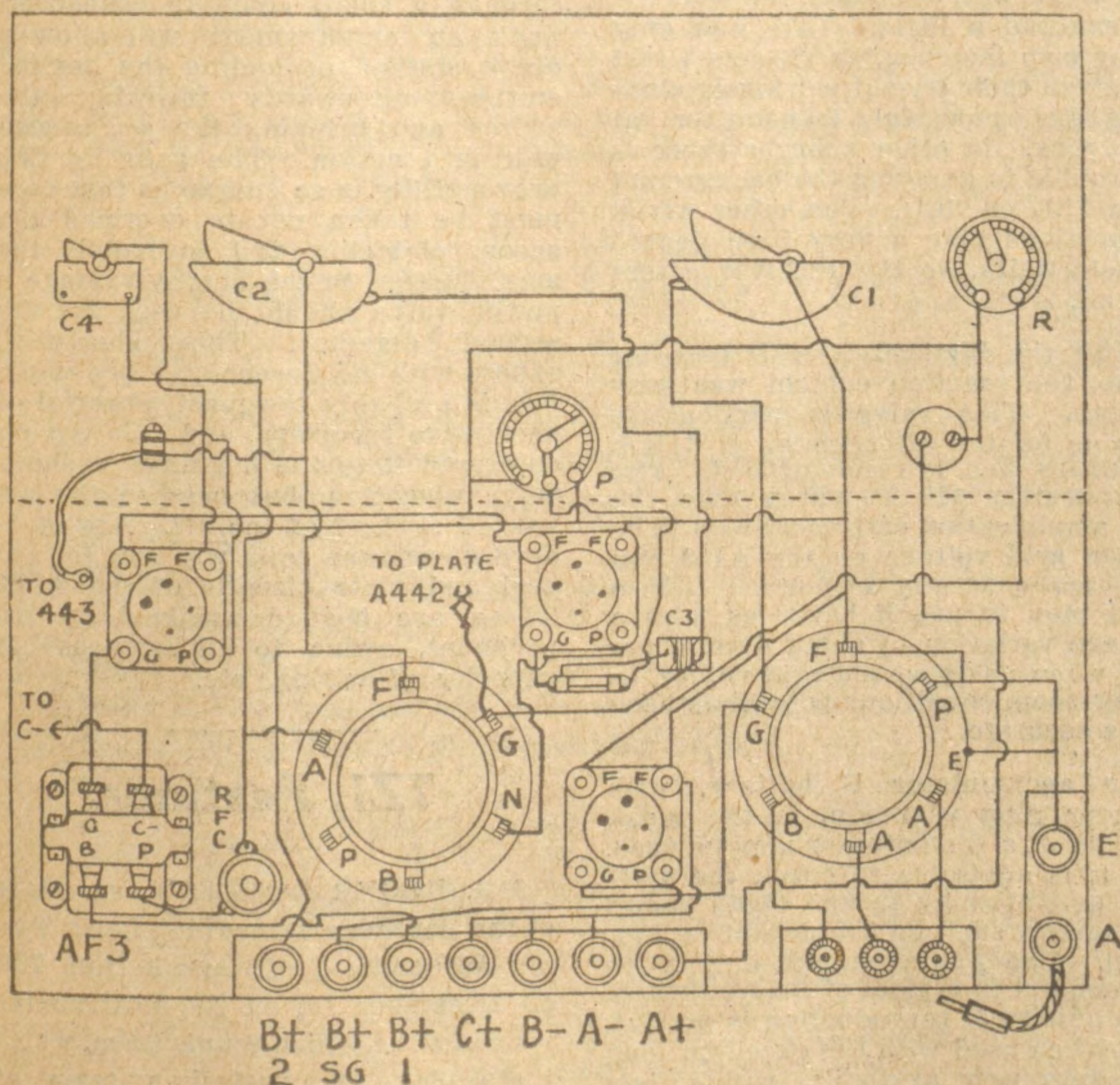
tainable from every dealer stocking high-class components. Alternatively they may be obtained direct from the agents for Mullard valves and Ferranti transformers: A. Beale Pritchett and Company, Ltd., Parker Street, Sydney. The J.B. condensers are of the best of engineering design and construction, being fitted with a smooth-running friction device for the spindle adjustment. This means that

if a plain 4in. dial is used the condenser cannot swing round if the bearing is lightly adjusted. The smooth movement of the rotor is explained by the fact that the spindle runs on a ball bearing.

The dials for the control of the tuned circuits are the well-known Pilot dials, and they give the finished instrument a neat and attractive appearance. The condenser C1, tuning the aerial or R.F. stage, has the rotor earthed directly to the metal panel by the one-hole fixing, but the other tuning condenser C2, for the detector circuit, is insulated from the panel. This is important. The insulating is done by drilling or filing a large clearance hole in the panel—large enough to clear the condenser fixing—and then mounting the condenser on a piece of bakelite bolted to the back of the panel.

This procedure applies also to the rheostat R, the potentiometer (POT), the switch S, and the jack J. The front panel view shows the rheostat for the R.F. valve on the left. This is marked R in the diagrams, and has a resistance value of 30 ohms. The knob on the right is the control for the reaction condenser C4. Reaction or feed-back is obtained by the throttle method, and the condenser used for this purpose is a wetless 19-plate midget variable. The total capacity of this is .0001 mfd., and, owing to the size of the reaction coil, is ample. It is mounted direct to the panel, thus earthing the rotor.

At the base, in the centre of the panel, is a 400-ohm potentiometer. Being connected across the filament supply, and the variable contact connected through the grid leak to the grid of the detector valve, this allows a correct adjustment for positive or negative bias on the detector, as may be required. This control need not be



Tuning is Easy---Amazing Amplification of Stations

played about with, and once set may be left so—unless the detector valve is changed.

It is obvious that a transformer worthy of the Penthode valve should be used, or a really good set may be marred by the use of an unsuitable transformer. The transformer must be capable of standing a heavy load with freedom from distortion. The Ferranti AF3 is the one used here, but if you have an AF4 on hand it may be substituted. In series with the primary of the transformer is the usual Radiokes R.F. choke, to prevent any R.F. current from passing through to the audio amplifier. Do not under any circumstances omit this R.F. choke, or you will be faced with audio howls and instability. The filament switch and jack are both placed underneath the sub-panel level in the position shown in the drilling diagram.

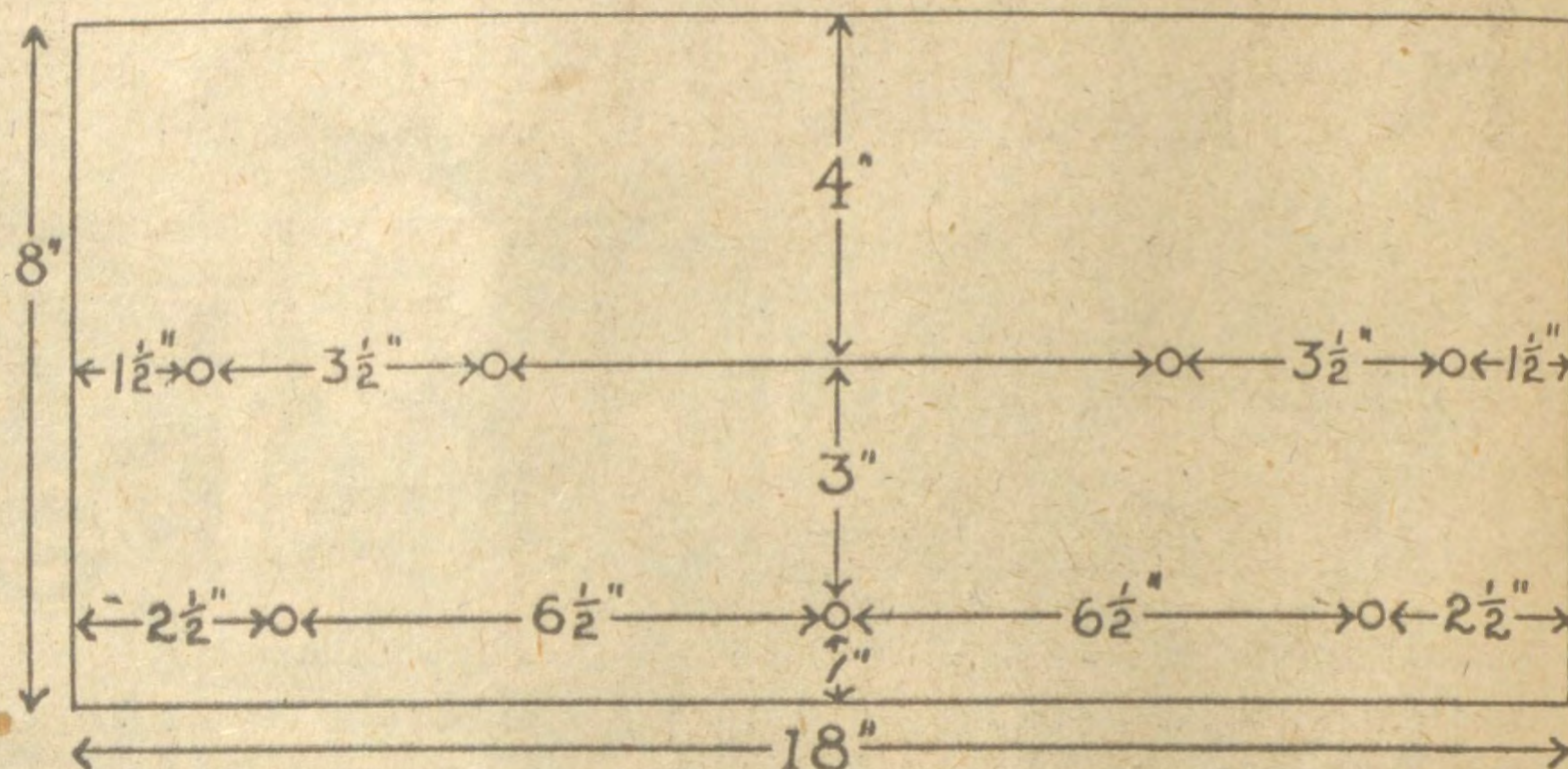
The photographs will make clear the lay-out of the set, and the wiring may be followed without trouble from the back-of-panel wiring diagram.

In place of terminals, a battery cable was used with a junction strip, carrying eight small bolts. Terminals are shown in the wiring diagram to avoid confusion. It will be noted that the "B" voltages for the R.F. valve and audio valve plates are common. This is a good rule to follow when using screen grid valves, as they both require very near, or the same, plate voltage. The earth connection to the set is made by a length of flex wire, with one end held under one of the screws holding the sub-panel bracket near the aerial coil unit. No filament resistances are provided for the detector and Penthode valves, as the set is fed from a 4-volt accumulator.

Under no circumstances must more than 4 volts be applied to the A battery terminals. Use insulated wire for this set. "Chromax" is ideal for the purpose, being 16-gauge tinned copper, with a strong covering of insulation of various colors. Although this insulation is strong enough to be safe, it is a good plan to slip a small length of "spaghetti" over the wire where such leads as B X have to pass through the metal.

Another important reason why insulated wire should be used throughout is because if all leads are more or less uncovered, there is a big chance of burning the valves out by contact from a screw-driver or pliers—if the constructor is unwise enough to play around inside the set at any time with the batteries connected. I have been guilty myself of "blowing valves" by simply dropping a grid leak inside an all-metal receiver just where it should not have dropped. Moral: "Even if you change a grid leak, disconnect your B batteries."

The connection to the plate terminal on top of the A.442 screen grid valve is made by a flexible wire to the detector circuit. You will see in the



photographs the connection for the extra grid voltage to the screw cap on the side of the B.443. When the wiring is completed, connect up your batteries. Here is a tip—particularly for all-metal receivers. Connect up the A battery first, C battery next, then B battery—making the last battery connection the B negative. You are not likely to experience any shocks by touching the framework in this way, apart from which, a sudden jump, owing to a slight shock, may make you drop a B positive lead where you should not.

There is one difference from the diagram in the aerial connection which may be of use. It was found that the R.F. amplification was increased considerably by connecting the aerial direct to the grid of the R.F. valve, but, of course, the selectivity suffered a little. This was only in my own instance, as all sets I test are given their try-out perilously close to 2BL's powerful transmitter at Randwick. In other suburbs there is no trouble in avoiding the background from 2BL on 3LO. The other aerial connections give a very high degree of selectivity, so the receiver caters for all.

With the Mullard PM4 D detector valve, the reaction control was very smooth. This valve is particularly suitable for use after screen grid R.F. amplifiers, and is recommended. Also the six-sixty 410 P will handle the R.F. amplification extremely well. The screen grid voltage on the A442 will be between 80 and 90 volts. It is a good plan to use B batteries with a voltage variation of about 4 volts per step when using screen grid valves, as under some conditions potentials need to be accurate.

An accumulator B battery, with wonder plug variation, is the ideal. Of course, a B eliminator may be used, but it is advisable to check the voltage delivered by means of an accurate meter, such as the Jewell or Ferranti. The Pentavox has only three valves, but is typical of future design. The quality of reproduction is perfect, and when used with the excellent loud speakers now available, will satisfy the most exacting broadcast listener.

The Screen Grid Superheterodyne.

(Continued from page 9.)

is 75 volts to the screen-grid, 3 volts negative bias to the control grid, and 150 volts to the plate. It will be noticed that the metal shield is earthed, and the negatives and plate tuning coil and condenser at high potential. Great care must, therefore, be taken in insulating the variable condenser from the metal. This procedure also applies to the small coupling condenser. Simplicity of tuning may be provided by arranging a change-over switch to connect the aerial from the screen-grid unit to the grid of the first detector valve. This should be done through a small coupling condenser. Such an arrangement will allow a quick method of finding the desired station, afterwards throwing the switch and bringing the screen-grid unit into action. The gain by this pre-amplifier is so enormous that care must be taken not to overload the second detector, and to handle the amplification to the best advantage a power valve should be used for the second detector. This shortwave super, with its screen-grid pre-amplifier, is probably the most powerful of shortwave receivers, and I do not recommend it to the beginner in shortwave reception, but only to the advanced student of the art. Any standard shortwave coils will suit for the grid and plate circuits of the A442. These are best determined by experiment, owing to differences in capacity of wiring, etc.

7ZL Features.

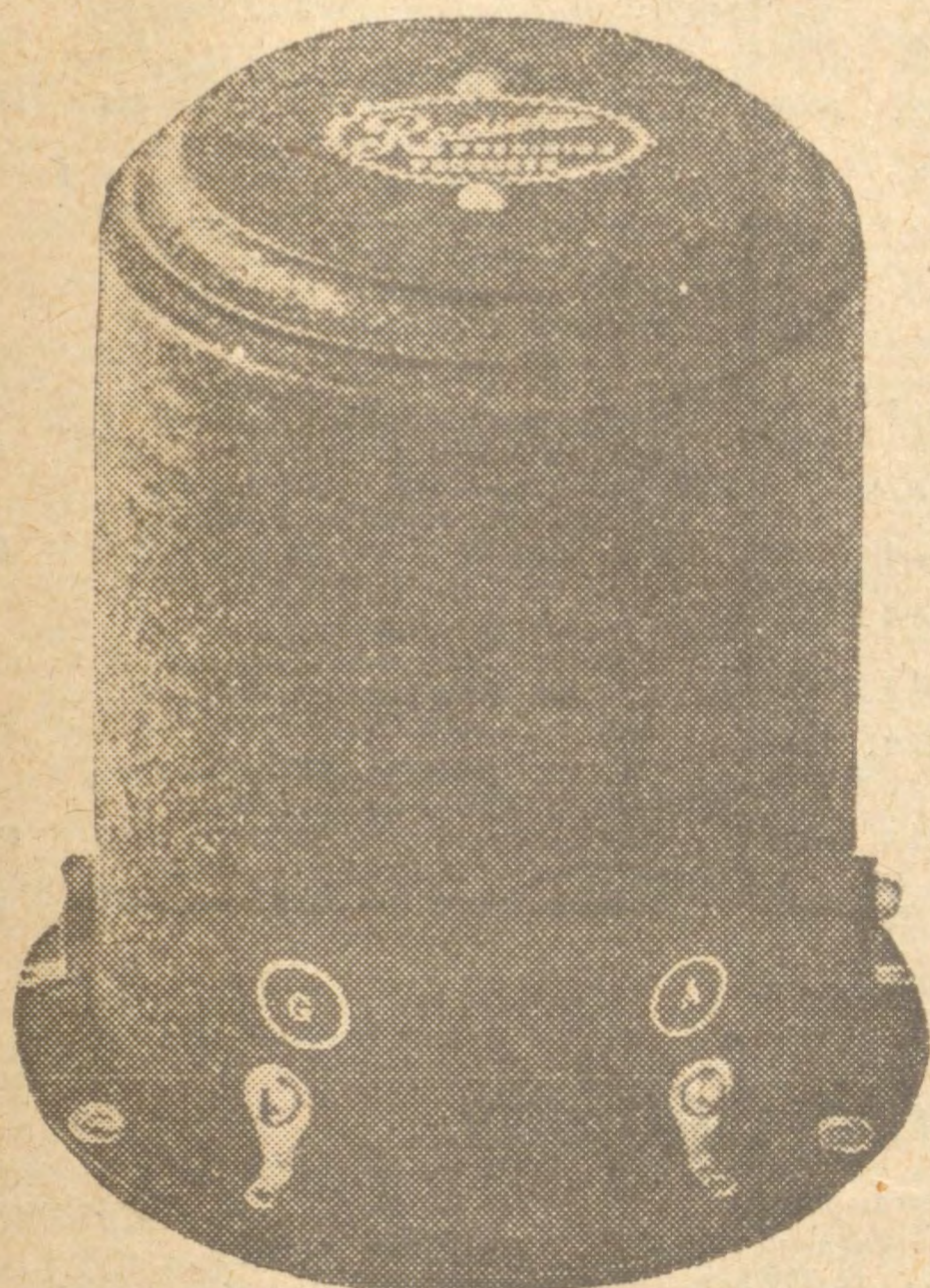
MR. ROGER DOHERTY, secretary of the Southern Tasmanian Lawn Tennis Association, will speak from 7ZL on December 10, on the forthcoming visit of the English tennis team, which is to play an Australian team at Hobart during the Christmas holidays.

RADIOKES Products

PENTAVOX

Specified for the

Wonder Tri-Valver described in this Issue



RADIOKES SHIELDED INDUCTANCE
UNITS

Antenna Coupler 24/- each.
Split Secondary 24/- each.
Also supplied in Split Primary and Reinartz
types.

TWO RADIOKES shielded coils are called for in this receiver; one antenna coupler, and one split secondary type inductance unit.

These coils are essential for the correct functioning of this little receiver, for with the specified components this circuit causes three tubes to function with a performance equalling that of any good five-valver.

The reason that Radiokes units were chosen is quite obvious. For years past Radiokes products have been steadily climbing to public favour, with a result that, to-day, almost all the commercial inductances used throughout Australia are produced by Radiokes.

This has only been possible by constant vigilance on the part of the manufacturers, who have exerted every effort to produce and maintain the best that coil practice can offer.

Remember that no better coils are available on any of the world's markets to-day!

RADIOKES Radio Frequency CHOKES

are also specified for the excellent PENTAVOX

These little chokes represent the latest development in coils of this class. They are so well designed and manufactured that they are equally applicable for work on the regular broadcast band, and also on the ultra high-frequencies down below 100 metres.

These little units are very robust, and, being very small, they do not "hog" sub-panel space.

Semi-shielded—that means that inter-action or "pick-up" is almost entirely eliminated, and because of their easy mounting and wiring facilities they should commend themselves as your unerring choice.



Price 8/6 each

Obtainable from all High-class Radio Dealers everywhere or direct from

Metropolitan Electric Co. Ltd., "Radiokes House,"
126-130 Sussex St., Sydney
NOTE THE NEW ADDRESS

We have extended into larger premises, and office is removed from 27 King Street.
OUR NEW TELEPHONE NUMBER IS B2722

Broadcasting Stations

AUSTRALIA.			Metres. Watts.		Metres. Watts.		
New South Wales. Metres. Watts.			5KA—Sport Radio Ltd., 51 Kin-		WJZ—National B'casting Co.,		
2FC—N.S.W. B'casting Co., Ltd.,			tore Ave., Prospect	250 1000	195 Broadway, New York ..	454.3 30000	
Market St., Sydney	442	5000	Western Australia.				
2BL—N.S.W. B'casting Co., Ltd.,			6WF—Westralian Farmers Ltd.,		EUROPE.		
Market St., Sydney	353	5000	569 Wellington St., Perth ..	1250 5000	FL—Eiffel Tower, Paris, France 2650 & 32 5000		
2GB—Theosophical B'casting, 29			Tasmania.				
Bligh St., Sydney	316	3000	7ZL—Tasmanian B'casters Ltd.,		JAPAN.		
2KY—Trades and Labour Council,			95 Elizabeth St., Hobart ...	535 3000	JOAK—Tokyo Central B'casting		
Goulburn St., Sydney	280	1500	NEW ZEALAND.				
2UW—Radio House, 213 Eliza-			1YA—Radio B'casting Co. of		Co., Tokyo, Japan	375 1000	
beth St., Sydney	267	500	N.Z., Karangahope Rd., Auk.	333 500	JOBK—Osaka Central B'casting		
2UE—Electrical Utilities, Ltd.,			2YA—Radio B'casting Co., Wel-		Co., Osaka, Japan	385 1000	
619 George St., Sydney	293	250	lington	420 5000	JOCK—Nagoya Central B'casting		
2MK—Mockler Bros., Hawick St.,			3YA—Radio B'casting Co. of		Co., Nagoya, Japan	360 1000	
Bathurst	275	250	N.Z., Christchurch	306 500	JODK—Keijo B'casting Co., Keijo,		
2HD—H. A. Douglas, King St.,			4YA—Radio B'casting Co. of		Japan	345 1000	
Newcastle	288	100	N.Z., Dunedin	463 750	DUTCH EAST INDIES.		
2BE—Burgin Electric Co., Ltd.,			GREAT BRITAIN.				
340 Kent St., Sydney	316	100	2LO—British B'casting Co.,		JFC—Bataviasche Radio, Jereen-		
Victoria.			Savoy Hill, London	361.4 3000	inging, Batavia	220 40	
3LO—Dominions B'casting Co.,			5XX—British Broadcasting Co.,		PHILIPPINE ISLANDS.		
Ltd., 120a Russell St., Melb.	371	5000	Daventry	1604.3 5000	KZRM—Radio Corp. of The		
3AR—Dominions B'casting Co.,				-10000	Philippines, Manila, Philip-		
Ltd., 120a Russell St., Melb.	484	1600	UNITED STATES OF AMERICA.				413 1000
3UZ—O. J. Nilson & Co., Bourke			KDKA—Westinghouse Elec. and		KZKZ—Radio Corp. of the		
St., Melb.	319	100	Mfg. Co., East Pittsburg, Pa.	315.6 50000	Philippines, Manila, Philip-		
3DB—Druleigh Business College,			KFI—Earle C. Anthony Inc., 1000		pine Islands	270 500	
Melb.	255	500	So., Hope St., Los Angeles	468.5 5000	KZIB—Radio Corp. of the		
Queensland.			KGO—General Electric Co.,		Philippines, Manila, Philip-		
4QG—Queensland Govt. Radio			Oakland, California	384.4 5000	pine Islands	260 500	
Service, Brisbane	385	5000	KOA—General Electric Co., 1370		INDIA.		
4GR—Gold Radio Service, Mar-			Krameria St., Denver, Colo.	325.9 5000	7CA—Indian Broadcasting Co.,		
garet St., Toowoomba	294	100		-10000	Calcutta	370.4 3000	
South Australia.			WEAF—National B'casting Co.,		7BY—Indian Broadcasting Co.,		
5CL—Central B'casters, Ltd., 59			195 Broadway, New York ..	491.5 50000	Bombay	357.1 3000	
Franklin St., Adelaide	395	5000	WGY—General Electric Co., So.		SOUTH AFRICA.		
5DN—5DN Pty., Ltd., 2-4 Mont-			Schenectady, N.Y.	379.5 50000	WAMG—African B'casting Assn.,		
perier St., Parkside	313	500			Cape Town, South Africa ..	375 1500	
					JB—African B'casting Co.,		
					Johannesburg, South Africa,	450 500	

Short Wave Broadcasting Stations

Wavelengths		Wavelengths.		Wavelengths	
AUSTRALIA.		SOUTH AFRICA.		JAPAN.	
2ME—A.W.A. (Syd.) station used for 2FC transmissions	28.5	JB—Johannesburg Bd'stg. Co., Cape Town	20, 25	JHBB—Ibarakiken, Japan	37.5
2YG—Ray Allsop (Syd.) station used for 2BL transmissions	32.5			JIPP—Tokio, Japan	20
3ME—A.W.A. (Melb.) station used for 3LO transmissions	32.			JIAA—Iwatsuki, Japan	79
4.30 a.m. to 6.30 a.m. every Monday (Melb. time).				JKZB—Tokio El. Co., Tokio	20
6AG—W. E. Coxon (Perth) station used for 6WF transmissions	32.9			GERMANY.	
GREAT BRITAIN.		AGJ—Naven	56.7	POX—Naven	70
5SW—Marconi Company, Chelmsford, England	24	POZ—Naven	19	EH9XD—Zurich Radio Club	85, 32.
2YT—Poldhu, England,	25, 32, 92, 94	AGC—Naven	17.2	NORWAY.	
2NM—Gerald Marcuse, Queen's Park, Caterham, Surrey, England	32.5 and 28 metres			LGN—Bergen, Norway	30
UNITED STATES.				SWEDEN.	
2XAA—Houlton, Maine, U.S.A.	21.99	7MK—Copenhagen	39.2	7RL—Copenhagen	42.12
2XAD—G.E.C. Schenectady, U.S.A. ..	21.96	AUSTRIA.		OKK2—Vienna, Austria	70
2XAF—G.E.C. Schenectady, N.Y.	32.7	SPAIN.		—Casablanca, Spain	51
2ZAG—G.E.C. New York, U.S.A. 14, 16, 42.		FRANCE.		SWITZERLAND.	
2XAC—W.G.Y. Radio, Schenectady 15 to 100		GC—Radio LL, Paris	61.	EH9OC—Berne, Switz.	32
2XBA—W.G.Y. Radio, Newark, N.J. ..	65.18	YR—Lyon, Rhone	40, 20		
2XAL—"Radio News," New York	30.91	FL—Eiffel Tower, Paris	32	JAVA.	
2XE—Richmond Hill, N.Y.	22.1			ANF—Malabar	56
2XG—W.E.C. Rocky Point	16.02, 23.			JFC—Bataviasche Radio, Batavia ..	22, 40.
6XAI—Inglewood, Cal., U.S.A.	66.04			ANDIR—Bandoeng	38.5
6XAR—San Francisco, Cal., U.S.A. ..	33			ANE—Malabar	32, 31.26, 15.93
8XK—c/o K.D.K.A., E. Pittsburg, U.S.A.	63.5, 42, 14.			ANH—Malabar	17.4, 27, 32
8XP—c/o KDKA, E. Pittsburg, U.S.A.	63.5, 42, 14.				
9XU—Council Bluffs, Iowa	61.06				
KDKA—Westinghouse Ltd., Pittsburg	63.5, 42, 26, 14.				
KFKX—Hastings, Nebr.	56				
NPG—San Francisco, Cal., U.S.A. 40, 43, 81.					
NXF—Bellevue, Anna, D.C., 16, 17, 20, 50, 54,	71, 81, 84.				
WCY—Schenectady, N.Y.	32, 79, 32.5				
WGN—W.E.C. Long Island, N.Y.	75				

BROADCASTING PROGRAMMES

For the COMING WEEK

Friday, December 7

New South Wales Broadcasting Company, Limited.

2FC SERVICE

Wave Length, 442 metres.

EARLY MORNING SESSION

Announcer: A. S. Cochrane.

- 7.0 a.m.: "Big Ben" and announcements.
- 7.2 a.m.: Official weather forecast; rain-fall; 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.
- 8.0 a.m.: "Big Ben"; close down.

MORNING SESSION.

Announcer: A. S. Cochrane.

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

MIDDAY SESSION.

Announcer: A. S. Cochrane.

- 12.0 noon: "Big Ben" and announcements.
- 12.1 p.m.: Stock Exchange, first call.
- 12.3 p.m.: Official weather forecast; rain-fall.
- 12.5 p.m.: Studio music.
- 12.15 p.m.: Rugby wireless news.
- 12.18 p.m.: A reading.
- 12.30 p.m.: Studio music.
- 1.0 p.m.: "Big Ben;" weather intelligence.
- 1.3 p.m.: "Evening News" midday news service; Producers' Distributing Society's report.
- 1.20 p.m.: Studio music.
- 1.28 p.m.: Stock Exchange, second call.
- 1.30 p.m.: Popular studio music.
- 2.0 p.m.: "Big Ben;" close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

- 2.30 p.m.: Programme announcements.
- 2.32 p.m.: Educational session for the schools.
- 3.0 p.m.: "Big Ben;" pianoforte reproduction.
- 3.15 p.m.: Popular music.
- 3.25 p.m.: Rowell Pryn (baritone).
- 3.32 p.m.: From the Wentworth, the Wentworth Cafe Orchestra, under the direction of Mr. Jimmy Elkins.
- 3.45 p.m.: A talk.
- 4.0 p.m.: "Big Ben;" Dorothy Toppin (soprano), (a) "O luce di quest'arima" (Donisetti), (b) "Sunflakes" (Phillips).
- 4.7 p.m.: Studio music.
- 4.12 p.m.: Rowell Pryn (baritone).
- 4.19 p.m.: From the Wentworth, the Wentworth Cafe Orchestra, under the direction of Mr. Jimmy Elkins.
- 4.30 p.m.: From the studio, Dorothy Toppin (soprano), (a) "Fairy Forest" (Wood), (b) "Little Dream Bird" (Oliver).
- 4.37 p.m.: Studio music.
- 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. 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: "Big Ben;" late news service.
- 7.10 p.m.: From Chappell's Concert Salon. Mustel organ recital.

EVENING SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

- 7.40 p.m.: Programme announcements.
- 7.47 p.m.: Studio music.
- 7.53 p.m.: Len Maurice (popular vocalist).
- 8.0 p.m.: "Big Ben." By courtesy of J. C. Williamson, Ltd., a theatrical transmission will be arranged, the first act of one of Sydney's leading productions being broadcast for the benefit of listeners.
- 9.0 p.m.: "Big Ben;" weather report.
- 9.2 p.m.: Wendling and Molloy (radio melody makers), (a) "Back in Your Own Back Yard" (Jolson), (b) "My Stormy Weather Pal" (Piantodosi), (c) "Dream House" (Cowan), (d) "Out in the New-mown Hay" (Tracey).
- 9.12 p.m.: Len Maurice (popular vocalist).
- 9.19 p.m.: Wendling and Molloy (radio melody makers), (a) "You're a Real Sweetheart" (Friend), (b) "The Hours I Spent with You" (Little), (c) "Lonesome in the Moonlight" (Baer).
- 9.26 p.m.: Radio Eisteddfod. A number of finalists in the Radio Eisteddfod, conducted by the New South Wales Broadcasting Company, Limited, will be heard, including the following sections: Mixed choir, champion violin solo, bass, impromptu announcer, best Australian pianoforte composition, baritone, dance band, contralto, popular vocalist, cornet solo, female choir, champion pianoforte solo, grand vocal championship.
- 10.27 p.m.: To-morrow's programme.
- 10.30 p.m.: National Anthem.

2BL SERVICE

Wave Length, 353 metres.

Friday, December 7

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.
- 9.30 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.
- Women's session, conducted by Mrs. Cranfield.
- Sporting talk by Miss Gwen Varley, women's sports authority.
- 12.0 a.m.: G.P.O. clock and chimes.
- Special ocean forecast and weather report.
- 12.3 a.m.: Studio music.
- 12.30 p.m.: Shipping and mails.
- 12.35 p.m.: Market reports.
- 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.
- 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.
- Studio music.
- 4.0 p.m. Greta Callow, soprano—(a) "April Children" (Clive Carey), (b), "Summer Rain" (Maurice Besley).
- 4.7 p.m.: A Talk.
- 4.22 p.m.: Radio Eisteddfod—Finalists in the Radio Eisteddfod will be heard drawn from the following sections:—Tenor, Dance Band, Soprano, Contralto, Entertainers, Comedians.
- 4.5 p.m.: Dismal Desmond, comedian.
- 4.57 p.m.: Greta Callow, soprano—(a) "The Flutes of Arcady" (William James), (b) "Spring" (Henochel).
- 5.2 p.m.: "Sun" news service.
- 5.7 p.m.: Dismal Desmond, comedian.
- 5.14 p.m.: Studio music.
- 5.24 p.m.: "Sun" news service.
- 5.30 p.m.: Studio music.
- 5.35 p.m.: Producers' Distributing Society's poultry report.
- 5.37 p.m.: Features of the evening's programme.

EARLY EVENING SESSION.

Announcers, J. Knight Barnett, Basil Kirke.

- 5.40 p.m.: Children's music and entertainment.
- 6.0 p.m.: Children's letters and stories
- 6.30 p.m.: "Sun" news and late sporting.
- 6.40 p.m.: E. F. Wilks' pianoforte recital.
- 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"); 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.

Announcee, Basil Kirke

Accompanist, G. Vern Barnett.

- 8 p.m.: G.P.O. clock and chimes.
- The Bohemian Five—
- (a) "A Summer Night in Madrid" (Gla-zounow).
- (b) "On a Faery Garden" (Winlaw).
- 8.15 p.m.: W. E. Lewis, baritone.
- 8.22 p.m.: James Walker, pianist—
- "Suite E Major" (Bach).
- 8.29 p.m.: Dismal Desmond, comedian.
- 8.36 p.m.: The Bohemian Five—
- (a) "The Blue Moon" (Stolz).
- (b) "Allegretto from the Violin Sonata, No. 2" (Grieg).
- 8.51 p.m.: Ruth Ladd, soprano.
- 8.58 p.m.: Weather report by courtesy of Government Meteorologist.
- 9.0 p.m.: C. R. Dexter will give last minute racing information.
- 9.15 p.m.: W. E. Lewis, baritone.
- 9.22 p.m.: Dismal Desmond, comedian.
- 9.29 p.m.: James Walker, pianist—
- (a) "Etude C Major" (Chopin)
- (b) "Prelude G Major" (Alfred Hill).
- 9.35 p.m.: Ruth Ladd, soprano.
- 9.43 p.m.: The Bohemian Five—
- (a) "Bonita" (Fraser-Simson).
- (a) "Contr-Dance" (Beethoven).
- 9.55 p.m.: Len Maurice, in popular numbers.
- 10.3 p.m. Mr. Cooper, Park Superintendent, City Council, will talk on "Gardening Science."
- 10.18 p.m.: The Savoyans' Dance Band.
- 10.28 p.m.: Late weather report.
- 10.30 p.m. The Savoyans' Dance Band, with popular choruses by Len Maurice.
- 10.52 p.m.: Resume of following day's programme.
- 10.54 p.m.: The Savoyans' Dance Band. During the intervals between dance items "Sun" news will be given.
- 11.30 p.m.: National Anthem.

2GB, SYDNEY

Theosophical Broadcasting Service.

Wave Length, 316 metres.

Friday, December 7

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. 3.0 p.m.: Music. 3.0 p.m.: Address. 3.15 p.m.: Music. 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 Barry, Mr. Cedric Ashton. 8.17 p.m.: Songs by Mr. Droffni Rorke. 8.26 p.m.: Violin solos by Mr. Cecil Barry. 8.36 p.m.: Clement Hosking vocal quartette, Miss Elsie Brown, Miss Eva Croft, Mr. Thomas Hall, Mr. Clement Hosking. 8.45 p.m.: Address. 9.0 p.m.: Weather report. 9.2 p.m.: London street cries. 9.11 p.m.: Pianoforte solos by Miss Belle Young. 9.21 p.m.: Songs by Mr. Broffni Rorke. 9.30 p.m.: Cello solos by Mr. Cedric Ashton. 9.40 p.m.: Clement Hosking quartette, in selections from comic opera. 10.0 p.m.: 2GB Instrumental Trio. 10.20 p.m.: Orchestral items. 10.30 p.m.: Close down.

2UW, SYDNEY

Radio Broadcasting, Limited.

34 Paling's Buildings, Ash, Street, Sydney.

Wave Length, 267 metres.

Friday, December 7

MIDDAY SESSION.

12.30 p.m.: To-day's anniversary. 12.32: Music. 1.0: G.P.O. clock and chimes. 1.1: Music. 2.0: Talks to women. 2.15: "Cheerio talk." 2.30: Close down. 4.30: Musical programme.

EVENING SESSION.

5.30 p.m.: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. 7.1: Music. 7.10: News item. 7.30: Musical interlude. 7.35: Talk on modern English poetry. 8.0: G.P.O. clock and chimes. 8.1: Music. 9.0: G.P.O. clock and chimes. 9.1: Comments on foreign affairs by Mr. J. M. Prentice. 9.10: Music and request numbers. 10.0: Close down.

3LO, MELBOURNE

Broadcasting Company of Australia.

Wave Length, 371 metres.

Friday, December 7

EARLY MORNING SESSION.

7.15 a.m.: Morning melodies. 7.20 a.m.: Morning exercises to music. 7.30. Stock reports; market reports; general news; shipping; sporting information. 8 a.m.: Melbourne Observatory time signal. 8.1 a.m.: morning melodies. 8.15: Close down.

MORNING SESSION.

Announcer: Frank Hatherley.

11.0 a.m.: 3LO's different dainties for the daily dinner. To-day's radio recipe. 11.5 a.m.: Captain Donald MacLean, "Famous Women in 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, Dr. Vera Scantlebury will speak on "The Summer Care of Infants." 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.

MID-DAY SESSION.

Announcer: Frank Hatherley.

Accompanist: Agnes Fortune.

12.20 p.m.: The Station Orchestra; selection, "Patience" (Sullivan). 12.30 p.m.: Tom Masters, tenor, "Oh, Flower Divine" (Haydn Wood). "Wait" (d'Hardelot). 12.37 p.m.: Stock Exchange information. 12.40 p.m.: The Station Orchestra; selection, "Our Miss Gibbs." 12.50 p.m.: Sydney Hollister, comedian, "What I Think of Lancashire." 1.0 p.m.: The Station Orchestra, "Stradella" (Flotow). 1.10 p.m.: Meteorological information; weather forecast for Victoria, New South Wales, South Australia, and Tasmania; ocean forecasts; river reports. 1.17 p.m.: Tom Masters, tenor, "Once Again" (Sullivan). "Sometimes in Summer" (Sterndale Bennett). 1.24 p.m.: The Station Orchestra, selection, "The Mikado" (Sullivan). 1.37 p.m.: Syd. Hollister, comedian, selected. 1.45 p.m.: Close down.

AFTERNOON SESSION.

Announcer: Frank Hatherley.

Accompanist: Agnes Fortune.

2.15 p.m.: The Austral Quartette, Mozart's Works. The Trio, "Trio in E Flat Major, First Movement" (Mozart); soprano, "Deh vieni non tardar," Marriage de Figaro; "Ah lo so," Magic Flute; piano, "Fantasia" (Mozart); mezzo-soprano, "Progo Amor" (Mozart), "Voi che sapete" (Mozart); violin and piano, "Sonata B Flat Major, 1st Movement" (Mozart). 2.45 p.m.: Charles Ulivi, baritone, selections from his repertoire. 2.52 p.m.: The Station Orchestra, suite, "Callirhoe" (Chaminade). 3.2 p.m.: Frances Fraser will speak on "English Poets in Italy." 3.17 p.m.: The Station Orchestra, "Allegretto from F Major Sonata" (Grieg); "Pensee Lyrique" (Geehl). 3.27 p.m.: Kathleen Castles, mezzo-soprano, "Plaisir d'Amour" (Martini). "A Basque Lullaby" (traditional). 3.34 p.m.: Joseph Barrille, flute "Gipsy Dance" (German). 3.39 p.m.: The Station Orchestra, "Siegfried's Liebeslied" (Wagner). "Idilio" (Lack). 3.49 p.m.: Icsis Brown, soprano, "Lithuanian Song" (Chopin). "With a Water Lily" (Grieg). 3.56 p.m.: Guildford Bishop, violin, "Ballade" (Henry). 4.1 p.m.: Charles Ulivi, baritone, Selected. 4.3 p.m.: The Station Orchestra, suite, "Orientale" (Popy). 4.18 p.m.: Victor Stephenson, piano, "Rhapsody Op. 11" (Dohnanyi). "Reverie" (Strauss). "Allegro di Concerto" (Granados). 4.32 p.m.: Kathleen Castles, mezzo-soprano, "The Sapphic Ode" (Brahms); "Among the Willows" (Brahms). 4.39 p.m.: The Station Orchestra, "Walther's Brieslied" (Wagner). "Serenade" (Chaminade). 4.47 p.m.: Icsis Brown, soprano, "Vissi d'arte"—Tosca (Puccini). "A Swan" (Grieg). 4.53 p.m.: The Station Orchestra, "Butterfly" (Densmore). "Canzonetta" (d'Ambrosio). 5.0 p.m.: "Herald" news service. Stock Exchange information. 5.10 p.m.: Close down.

EVENING SESSION.

Announcer: Maurice Dudley.

6.0 p.m.: Answers to letters and birthday greetings by "Billy Bunny." 6.25 p.m.: Musical interlude. 6.30 p.m.: Captain Donald M'Lean will tell some more about "Pirates."

NIGHT SESSION.

Announcer: John Stuart.

Accompanist: Agnes Fortune.

6.50 p.m.: Madame Soward, "French Without Tears." 7.5 p.m.: Stock Exchange information. 7.15 p.m.: Official reports 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 Company, Ltd. Poultry, grain, hay straw, jute, dairy produce, potatoes, and onions; market reports of fruit by the Victorian Fruiterers' 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. 7.45 p.m.: Out of the past. 7.46 p.m.: Under the auspices of the Agricultural Department, R. T. Archer, Senior Dairy Inspector, will speak on "Pig Feeding Experiments." 8.0 p.m.: A Maker of History. 8.1 p.m.: Agnes Fortune will continue her interpretations of the works of Beethoven, and for to-night has chosen "The Pathétique Sonata in C Minor."

8.12 p.m.: Collingwood Citizens' Band, "Knight of the Garter," overture "Pique Dame." 8.22 p.m.: James Riley, tenor, "O Lovely Night" (Ronald), "A Dream" (Bartlett). 8.29 p.m.: Collingwood Citizens' Band, "The Cruiser," Irish ballad, "Eileen Alannah." 8.36 p.m.: Myrtle Walscott, contralto, "Sink, Red Sun" (Del Riego), "Down Here" (Brahe). 8.43 p.m.: H. K. Love will speak on "Technicalities." 8.53 p.m.: James Riley, tenor, request numbers. 9.0 p.m.: The University Symphony Orchestra (conductor, J. Sutton Crow), "Symphony in G" (Haydn). Carrie Cairnduff, soprano, "Chansons les amours de Jean" (arr. Weckerlin), "Maman dites-moi." The University Symphony Orchestra, "Concerto E Minor"—slow movement (Mendelssohn) (violin soloist, Connie Ziebell). Carrie Cairnduff, soprano, "Deh Vieni"—Figaro (Mozart). The University Symphony Orchestra, "Overture"—Orpheus (Gluck). "Ballet Music" (Gluck). "Furientanz" (Gluck). Carrie Cairnduff, soprano, "Polly Willis" (Arne). The University Symphony Orchestra, "Fingal's Cave" (Mendelssohn). 10.0 p.m.: Eric Welch will speak on tomorrow's races at Sandown Park. 10.10 p.m.: Collingwood Citizens' Band, "Memories of Donizetti." 10.20 p.m.: Myrtle Walscott, contralto, "The Serenade" (Brahms), "Lullaby." 10.27 p.m.: Collingwood Citizens' Band, "Darkies' Dreamland." 10.37 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 garden reminder supplied by Leslie Brunning. 10.42 p.m.: Syd. Hollister, comedian, In Merry Mood. 10.52 p.m.: Our great thought. 10.53 p.m.: The Radi-o-Aces, "Sally Rose" (Friend), "Sincerely I Do" (Davis), "You Can't be a Good Little Fellow" (Stanley), "Lonesome in the Moonlight" (Baer), "Get Out and Get Under the Moon" (Tobias), "That's My Weakness Now" (Stept), "Tiger Rag" (Moore), "Dream House" (Foxe), "Jeannine" (Gilbert), "Brainstorm" (Sanders), "Golden Gate" (Woods), "After My Laughter Came Tears" (Turk), "Without You Sweetheart" (Henderson), "Good-night Waltz," "Good-night Chorus." 11.40 p.m.: God Save the King.

3AR, MELBOURNE

Associated Radio Company.

Wave Length, 484 metres.

Friday, December 7

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: C. J. O'Connor.

Accompanist: Reg. Brown.

11.0 a.m.: Radi-o-Aces, "Just a Memory" (Henderson), "Lonesome in the Moonlight" (Baer), "Angelia Mia" (Rappee). 11.10 a.m.: James Riley (tenor), "I Seek for Thee in Every Flower" (Ganz), "Absent" (Glen). 11.17 a.m.: Radi-o-Aces, "Kiss Before the Dawn" (Perkins), "Parting With You" (Conly), "Chloe" (Kahn), "Lonely in a Crowd" (Greer). 11.32 a.m.: Freda Treweek (soprano), "Country Folk" (May Brahe), "Salaam" (Lang). 11.39 a.m.: Radi-o-Aces, "Louisiana" (Schafer), "Nesting Time" (Nussbaum), "Just a Year Ago To-night" (Rose). 11.49 a.m.: Chas. Ulivi (bass), selections from his repertoire. 11.56 a.m.: Radi-o-Aces, "Just Like a Melody Out of the Sky" (Donaldson), "Rain" (Ford), "Mine, All Mine" (Ruby), "Dolores" (Kassel). 12.11 p.m.: James Riley (tenor), "Jeunesse" (Barry), "My Ain Folk" (Lemon). 12.18 p.m.: Radi-o-Aces, "Down Where the Sun Goes Down" (Jones), "Don't Keep Me in the Dark" (Bryant), "All Day Long" (Cross). 12.30 p.m.: British official wireless; announcements. 12.40 p.m.: Radi-o-

Aces, "Happy-go-Lucky Lane" (Lewis), "Starlight and Tulips" (Nussbaum), "Stampede" (Henderson), "Can't You Hear Me Say I Love You" (Brown), 12.55 p.m.: Freda Treweek (soprano), "Deep River," "Two Brown Eyes" (Grieg), 1.2 p.m.: Radi-o-Aces, "Without You, Sweetheart" (De Silva), "Lolita" (Stoneham), "After My Laughter Came Tears" (Tobias), 1.12 p.m.: Chas. Ulivi (bass), special items, 1.19 p.m.: Radi-o-Aces, "Beautiful" (Sharp), "That's My Mammy" (Donaldson), "Honeymoon Cottage" (Lumsdaine), 1.30 p.m.: Close down.

EVENING SESSION.

Announcer: Maurice Dudley.

5.0 p.m.: Scientific Reproduction of Absent Artists.

NIGHT SESSION.

Announcer: Maurice Dudley.

8.15 p.m.: Eric E. Aiken, "To-morrow's Events at the Motordrome," 8.30 p.m.: Community Singing, transmitted from City Hall, Ballarat, 10.30 p.m.: "Age" news service, exclusive to 3AR, 10.38 p.m.: Weather forecast, 10.39 p.m.: Our Australian good-night quote, 11.0 p.m.: God Save the King.

4QG, BRISBANE

Queensland Radio Service.

Wave Length, 385 metres.

Friday, December 7

EARLY MORNING SESSION

Announcer: J. Tyson.

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.: "Cookery and Household Talk," by "The Etiquette Girl," 11.30 a.m.: Music, 11.35 a.m.: More social news, 11.45 a.m.: From the Wintergarden Theatre, Wurllitzer organ, 12.0 noon: Close down.

MID-DAY SESSION

Announcer: R. Wight.

1.0 p.m.: Market reports and weather information, 1.15 p.m.: From the Paris Cafe, lunch-hour music, 1.58 p.m.: From the Brisbane Observatory, time signals, 2.0 p.m.: Close down.

AFTERNOON SESSION

3.0 p.m.: From the Studio, a programme of music by the Studio Orchestra (conductor, A. R. Featherstone)—March, "The Loyal American" (Farrar); valse, "Forest Hill" (Spross); two-step, "Let's Have a Kiss Until To-morrow" (Williams); flower song, "A Russian Pansy" (Langey), violin solo, "Intermezzo Russe" (Franke), soloist, Leo Benvenuti; one-step, "My Sweet Egyptian Rose" (Friedland); valse ballet, "The Myriad Dancer" (Allan); overture, "The Light Brigade" (Gruenwald); one-step, "Pins and Needles" (Kaufman); march, "Tinfonia" (Hayes). Note: Should the Test Match not have concluded, a description of the final day's play will be broadcast from the Cricket Grounds. The time of the description cannot be fixed as the programme goes to press, but will be announced from the studio, 4.15 p.m.: "Telegraph" news, 4.30 p.m.: Close down.

EARLY EVENING SESSION

Announcers: R. Wight and H. Humphreys. Humphreys).

6.0 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; the Children's Hour—6.30 p.m.: Bedtime stories conducted by "The Sandman," Late commercial news—7.0 p.m.: News in brief, 7.5 p.m.: Stock Exchange quotations, 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

8.0 p.m.: From the Exhibition Hall, Ithaca Orchestral Society's concert, Ithaca Orchestral Society, "Siege of Rochelle" (Balfe), Nancy Muirhead (soprano), selected, B. F. Kelly (flautist), selected, A. C. Ball (trombonist), "The Lost Chord" (Sullivan), Ithaca Orchestral Society, "Barcarolle" from "Tales of Hoffman" (Offenbach), J. Ellis (pianist), piano concerto, "Capriccio Brillanti" (Mendelssohn).

9.0 p.m.: From the Studio—Metropolitan weather forecast, From the Exhibition Hall, Ithaca Orchestral Society, "Unfinished Symphony" (Schubert), Nancy Muirhead (soprano), selected, Ithaca Orchestral Society, "In a Chinese Temple Garden" (Ketelby), B. F. Kelly (flautist), selected, Ithaca Orchestral Society, "Iolanthe" (Sullivan), 10.0 p.m.: From the Studio, Week-end road information for motorists, officially supplied by the R.A.C.Q., 10.15 p.m.: Late news; weather news, Close down.

5CL, ADELAIDE

Central Broadcasters, Ltd.

Wave Length, 395 metres.

Friday, December 7

MORNING SESSION.

Announcer: G. R. Lamprell.

11.0 a.m.: G.P.O. chimes, 11.1: Sonora recital of world-famous Columbia orchestras, 11.40: "Economist," kitchen craft and menu talk.

MIDDAY SESSION.

12.0 noon: G.P.O. chimes, 12.1: The "Advertiser" general news service, 12.20: British Official Wireless news, 12.25: Gwen Moss, violinist—"Adagio" from "Concerto" (de Beriot); "Le Cygne" (Saint-Saens), 12.32: Harold Tidemann, baritone, "Flower of the Desert" (Lohr); "Windy Nights" (Stanford), 12.39: Vern Rogers, cornetist, "Funiculi Funicule" (Denza); "Somewhere a Voice is Calling" (Tate), 12.46: Alys Watson, soprano, "One Love Star" (MacCann), 12.50: S.A. railway information, 12.51: S. C. Ward and Co.'s Stock Exchange information, 12.57: Meteorological information, 1.0: G.P.O. chimes, 1.1: Tom King, pianist, "Two Cameos" (King), 1.7: Harold Tidemann, baritone, "My Captain" (Scott), 1.11: Gwen Moss violinist, "Midnight Bells" (Kreisler); "Lullaby" (Scott), 1.18: Denis Sheard, tenor, "A Bowl of Roses" (Clarke); "Come to the Fair" (Martin), 1.22: Vern Rogers, cornetist, "One Happy Day" (Da Costa); "Melodie" (Nicholls), 1.29: Alys Watson, soprano, "Daffodil Gold," "Danny, Boy" (Weatherly), 1.36: Tom King pianist, "Sequidillas" (Albeniz), 1.40: Harold Tidemann, baritone, "The Hallowed Hour" (Wood); "Absent, yet Present" (White), 1.46: Gwen Moss, violinist, "Andante," from "Concerto" (Dichmont); "Prevenca" (Carne), 1.56: S. C. Ward and Co.'s Stock Exchange information, 1.59: International cricket scores, First Test Match, at Brisbane, England v. Australia, 2.0: G.P.O. chimes and close down.

AFTERNOON SESSION.

Announcer: J. L. Norris.

3.0 p.m.: G.P.O. chimes; orchestral and vocal concert, 3.1: Maple Leaf C. Orchestra—Selection, "The Gondoliers" (Sullivan), 3.10: Linda James, mezzo, "Home is where you are" (Meale), "Ferryman Love" (Borsdorf), 3.17: Maple Leaf Cafe Orchestra—Serenade, "Two Guitars" (Roberts); foxtrot, "You're a Real Sweetheart" (Baer), 3.27: Sydney Burchall, popular baritone, "I heard you go by" (Wood); "Beautiful" (Shay), 3.34: Maple Leaf Cafe Orchestra—Entrante, "Soiree" (Zamecnik), 3.40: Vaudeville by Archie and Wattie, 1.0: G.P.O. chimes, 4.1: Linda James, mezzo, "Give Thanks and Sing" (Homer); "The Hand of You" (Bond), 4.7: William Davies, mencing at 6.45 p.m.

Kisses," 4.14: Mrs. Keith Steward, soprano, "The Fairy Pipers" (Brewer); "A May Morning" (Denza), 4.21: Seth Smith, banjoist, "A Shady Tree" (Donaldson); "Jeanine," 4.28: Syd. Burchall, popular baritone, "With Mother Smiling on me" (van Hesteyne); "Old-fashioned Locket" (Ford), 4.35: William Davies, xylophonist, "The Rag Doll" (Brown); "Get out and get under the Moon" (Shay), 4.42: Mrs. Keith Steward, soprano, "The Carnival" (Molloy); "Farewell to Summer" (Johnson), 4.49: Seth Smith, banjoist, "Sleep, Little Coon" (Brandon); "Song of Hawaii" (Bories), 4.56: S. C. Ward and Co.'s Stock Exchange information, 5.0: G.P.O. chimes and close down.

EVENING SESSION.

Announcer: J. L. Norris.

6.0 p.m.: G.P.O. chimes; children's time, 6.1: Birthday greetings; correspondence; songs and stories by "Miss Wireless," 6.30: Dinner music; Sonora recital of celebrated H.M.V. artists, 7.0: G.P.O. chimes; market reports, 7.1: S. C. Ward and Co.'s Stock Exchange information, 7.5: General market reports, 7.8: 5CL's sporting service by "Silvius," including a review of to-morrow's racing at Tailem Bend and Sandown Park, 7.20: "Willow" will review cricket in general, 7.30: P. H. Nicholls, talk, "Nicholas Nickleby," 7.45: The wool sales, a report on sales.

NIGHT SESSION.

8.0 p.m.: G.P.O. chimes, 8.1: Lewis Jones, violinist—"La Precieuse" (Kreisler), "Gavotet" (Gossec), 8.6: Sydney Burchall, popular baritone—"No Wonder I'm Happy" (Akst), "I Just Roll Along" (De Rose), 8.12: Lewis Jones, violinist—"Minuet" (Beethoven), "Legende" (Wieniawski), 9.15: Wheat and weather reports, 9.30: Humphrey Bishop Comedy and Dramatic Company—transmitted from Garden Theatre, Exhibition Gardens, Adelaide, 10.15: The "Advertiser" general news service, 10.20: 5CL's sporting service, by "Silvius," including a review of to-morrow's racing at Tailem Bend and Sandown Park, 10.32: Our good-night thought, 10.33: By courtesy of 3LO (Melbourne), modern dance numbers by the famous Radi-o-Aces, 11.10: God Save the King.

6WF, PERTH

Westralian Farmer's.

Wave Length, 1250 metres.

Friday, December 7

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, 1.2 p.m.: Studio Quintette, conducted by Mr. Val Smith, 2 p.m.: Close down, 3.30 p.m.: Tune in, 3.35 p.m.: Music and song, Afternoon tea concert, relayed from the Rosebud Cafe, Perth, Vocal and instrumental numbers from the studio, 4.30 Close down, 6.45 p.m.: Tune in, 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 Co., 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.: Popular night, Musical programme from the studio, including vocal and instrumental artists, choral items by the Mt. Hawthorn School Choir, conducted by Mr. H. Lutz, 9 p.m.: Late news items by courtesy of "The Daily News" Newspaper Co., ships within range announcement, weather report and forecast, station announcements, 9.25 p.m.: Wrestling, A description will be given by the sporting editor of "Truth" Newspaper of the wrestling match, relayed from the Theatre Royal, 10.30 p.m.: Close down.

104.5 METRE TRANSMISSION

Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, com-xylophonist, "Chloe" (Moret); "Dream

7ZL, HOBART

Tasmanian Broadcasters, Ltd.

Wave Length, 516 metres.

Friday, December 7

MID-DAY SESSION.

Announcer: Jack Broadbent.

11.30 a.m.: Messrs. Zonophone and Autotone in aerial undertones. 11.34 a.m.: Special midlands weather forecast. 11.35 a.m.: Messrs. Zonophone and Autotone in aerial undertones. 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. 12.3 p.m.: Messrs. Zonophone and Autotone in aerial undertones. 12.11 p.m.: British official wireless news. 12.20 p.m.: Messrs. Zonophone and Autotone in aerial undertones. 12.29 p.m.: Announcements. 12.33 p.m.: "Mercury" news service; produce sales held at railway. 1.10 p.m.: Messrs. Zonophone and Autotone in aerial undertones. 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.: Messrs. Zonophone and Autotone in aerial undertones. 3.11 p.m.: Weather information. 3.12 p.m.: Messrs. Zonophone and Autotone in aerial undertones. 3.15 p.m.: An all-star programme by Messrs. Zonophone and Autotone in aerial undertones—Fritz Kreisler, violin, "Scheherazade," Dance Orientale (Rimsky-Korsakov), "Molly on the Shore" (Grainger); Alma Gluck, soprano, "Bohemian Cradle Song" (Hubicka-Metana), "Song of the Chimes" (Worrell); Mischa Elman, violin, "Country Dance" (Beethoven-Elman), "Hungarian Dance, No. 7," A Minor (Brahms-Joachim); Enrico Caruso, tenor, "Serenade de Juan" (Tschikowsky); Mischa Elman, violin, "Capriccio" (Mendelssohn), "The Dew is Sparkling" (Elman); John McCormack, tenor, "Beneath the Moon of Lombardy" (Craxton), "Take, Oh Take Those Lips Away" (Bennett); Spencer Shaw, grand organ, "Tannhauser March" (Wagner), "Finlandia" (Sibelius); Reginald Goss Custard, F.R.C.O., "Fugue in G Minor" (Bach), "Prelude in G Minor" (Bach); Robert Radford, "When I was a Tiny Boy" (Nicolai), "Four Jolly Sailors" (German); Harry Goss Custard, organ, Kingsway Hall, London, "Grand Choir" (Dubois), "Spring Song."

EARLY EVENING SESSION.

Announcer: Jack Broadbent.

6.15 p.m.: Answers to letters and birthday greetings by "Uncle David." 6.20 p.m.: Messrs. Autotone and Zonophone in aerial undertones. 6.30 p.m.: "The Story Lady" will tell a story to the wee folk. 6.45 p.m.: Messrs. Autotone and Zonophone in aerial undertones. 7.0 p.m.: Request numbers for the children.

EVENING SESSION.

Announcer: Jack Broadbent.

Accompanist: Leila Read.

7.15 p.m.: O'Leary will speak on "Cricket Activities." 7.30 p.m.: A studio concert by Messrs. Zonophone and Autotone and 7ZL artists—Leila Read, pianist, "Selected" duet, Mary Moore, soprano, Odella Moore, contralto, "Love's Garden" (Hayden Wood), "I'll Sing to You" (Thomas); Paul Whiteman and his orchestra, "Just Like a Melody out of the Sky" (Donaldson); Ed. Brooker, aeola, "Alice, Where Art Thou?" (Ascher), "Absent" (Metcalf); International Concert Orchestra, "Sweetheart" (Strauss); Mary Moore, soprano, "When Song is Sweet" (San Souci), "A Thought" (Johnson).

Saturday, December 8

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 a.m.: "Sydney Morning Herald" summary.
7.10 a.m.: Shipping intelligence, mail services.
7.12: 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.
8.0 a.m.: "Big Ben." Close down.

MORNING SESSION.

Announcer: A. S. Cochrane.

Note.—A children's party will be held at the Grand Opera House, commencing at 10.30 a.m. Uncle "Hello Man" will be present, Uncle Ted, and "Sandy," Charles Lawrence, and Jack Cannot. The party will be continued until 11.45 a.m.
10.0 a.m.: "Big Ben" and announcements.
10.2 a.m.: Pianoforte reproduction.
10.10 a.m.: "Sydney Morning Herald" news service.
10.25 a.m.: Studio music.
10.30 a.m.: Last-minute sporting information by the 2FC Racing Commissioner.
10.40 a.m.: Studio music.
10.45: A Talk on "Gardening" by J. G. Lockley ("Redrum").
11.0 a.m.: "Big Ben."
A.P.A. and Reuter's cable services.
11.5 a.m.: From the Grand Opera House: A children's party, arranged by the New South Wales Broadcasting Company, Limited, at which the "Hello Man" will be present, Uncle Ted and "Sandy," Charles Lawrence, and Jack Cannot.
11.30 a.m.: Close down.

MIDDAY AND AFTERNOON SESSIONS.

Announcer: Ewart Chapple.

12 noon: "Big Ben" and announcements.
12.2 p.m.: Stock Exchange information.
12.4 p.m.: Studio music.
12.10 p.m.: "Sydney Morning Herald" news service.
12.15 p.m.: Rugby wireless news.
12.20 p.m.: Studio music.
12.45: Cricket scores, Combined Country v. England, played at Warwick.
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 Warwick Farm meeting will be described by the 2FC Racing Commissioner. Results of the Rosebery ponies will be transmitted as received.

CRICKET

Scores of the Combined Country v. England, played at Warwick, will be transmitted as received.
During sporting intervals items will be given by—

Les Busse, Mello Accordeon Solos—

(a) "Turkish Patrol" (Michaelis),

(b) "Girl o' My Dreams" (Clapp),

(c) "Winging" (Tobias),

(d) "Yesterday" (Hall),

(e) "Blaze Away" (Holzmann).

Elaine Penniford, violinist—

(a) "Polonaise" (Wieniawski),

(b) "Scherzo Tarantelle" (Wieniawski),

(c) "Menuet" (Kreisler).

And the Wentworth Cafe Dance Orchestra.

4.45 p.m.: From the Studio—

Complete sporting resume.

5.0 p.m.: "Big Ben." Close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40: The chimes of 2FC.
5.45: The children's session, conducted by the "Hello Man."
6.30 p.m.: Music and entertainment.
6.40 p.m.: Weather intelligence, shipping, Stock Exchange.
6.45 p.m.: Rugby wireless news.
6.50 p.m.: Sporting news, late news, and studio music.
7.10 p.m.: The 2FC Dinner Quartette, conducted by Horace Keats.
(a) "A Kiss in the Dark" (Herbert),
(b) "At Gretna Green" (Fletcher),
(c) "Gondoliera" (Laar),
(d) "The Merry Widow" (Lehar),
(e) "My Rosary for You" (Ball).

EVENING SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40 p.m.: Programme announcements.
7.47 p.m.: Studio music.

7.50 p.m.: Cricket results, England v. Combined Country, played at Warwick, Queensland, for the benefit of New Zealand listeners.

7.52 p.m.: Pianoforte reproduction.

8 p.m.: "Big Ben"; a musical programme under the direction of Mr. Leo Packer, to be followed by a studio production of the "Belle of New York."

New Light Symphony Orchestra, conductor, Leo Packer.

8.10 p.m.: Dorrie Ward, soprano.

8.17 p.m.: New Light Symphony Orchestra.

8.30 p.m.: Bryson Taylor, tenor.

8.37 p.m.: New Light Symphony Orchestra.

8.45 p.m.: Gwladys Rawling, soubrette.

8.52 p.m.: Duet, Dorrie Ward and Harry Hickson.

9.0 p.m.: "Big Ben." Weather report.

9.2 p.m.: Carlos Fakola, novelty pianist.

9.12 p.m.: Studio production of "The Belle of New York," produced by Leo Packer, in association with Hon. R. B. Orchard, C.B.E., and assisted by Dorrie Ward, Bryson Taylor, and a chorus of well-known 2FC artists.

1. Overture.

2. Opening chorus.

3. Song and chorus, "When I was born."

4. "Teach Me How to Kiss."

5. March and chorus, "We Came This Way."

6. "The Anti-Cigarette Society."

7. "La Belle Parisienne."

8. Song, "My Little Baby."

9. Chorus, "Pretty Little China Girl."

10. Song, "They All Follow Me."

11. Song, "She Is the Belle of New York."

12. Finale, Act I.

Act. II.—

1. Duet, "When We Are Married."

2. Song and chorus, "The Purity Brigade."

3. Song, "On the Beach at Narrangan-sett."

4. Finale.

10.15 p.m.: Carlos Fakola, novelty pianist.

10.25 p.m.: Late weather report.

10.27 p.m.: From the Wentworth, the Wentworth Cafe Orchestra, under the conductorship of Jimmy Elkins.

10.57 p.m.: From the studio—to-morrow's programme and announcements.

11 p.m.: From the Wentworth—the Wentworth Cafe Orchestra, under the conductorship of Jimmy Elkins.

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

2BL SERVICE**Saturday, December 8**

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 service from the "Daily Telegraph Pictorial."

8.25 a.m.: Studio music.

8.35 a.m.: Information, mails, shipping, arrivals, departures, and sailings.

8.38 a.m.: News service 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, 11.0-1.30.
J. Knight Barnett, 1.30-2.0.

11.0 a.m.: G.P.O. clock and chimes. Women's session, conducted by Mrs. Cranfield.

12.0 noon: G.P.O. clock and chimes. Special ocean forecast and weather report.

12.3 p.m.: Studio music.

12.30 p.m.: "Sun" news service.

12.40 p.m.: What's on at the pictures and theatres.

12.45 p.m.: Cricket scores, Combined Country v. England, played at Warwick.

12.47 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.—Results from the A.J.C.'s meeting at Warwick Farm and Rosebery ponies will be broadcast by courtesy of "Sun" newspapers.

AFTERNOON SESSION.

Announcer: J. Knight Barnett.

Accompanist: Kathleen Roe.

Note.—Sporting results will be transmitted at regular intervals as soon as received (by courtesy of "Sun" newspapers).

- 3.45 p.m.: G.P.O. clock and chimes. Cricket scores, England v. Combined Country, played at Warwick. Studio music.
- 4.0 p.m.: Romano's Restaurant Dance Orchestra. Conductor, Mr. Bennie Abrahams, broadcast from Romano's.
- 4.15 p.m.: Nat Hanley, comedian at the piano.
- 4.22 p.m.: "Sun" news service.
- 4.30 p.m.: Cricket scores, England v. Combined Country, played at Warwick.
- 4.32 p.m.: Stephen Farrell and his ukulele.
- 4.39 p.m.: Romano's Restaurant Dance Orchestra. Conductor Mr. Bennie Abrahams, broadcast from Romano's.
- 4.53 p.m.: Nat Hanley, comedian at the piano.
- 5.0 p.m.: G.P.O. clock and chimes. "Sun" news service.
- 5.10 p.m.: Stephen Farrell and his ukulele.
- 5.17 p.m.: Studio music.
- 5.30 p.m.: Complete racing resume.
- 5.37 p.m.: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: Mr. Basil Kirke.

- 5.40 p.m.: Children's music and entertainment.
- 6.0 p.m.: Children's letters and stories.
- 6.30 p.m.: "Sun" news service.
- 6.40 p.m.: 2BL Dinner Quartette, (a) "Valse Mignonne" (Drigo), (b) "There are Fairies in Your Eyes" (Klein), (c) "Ninna Nanna" (Micheli), (d) "Iolanthe" (Sullivan), (e) "Chanson Indoue" (Rimsky-Korsakoff), (f) "Idle Dreams" (Finck).
- 7.10 p.m.: Cricket scores, England v. Combined Country, played at Warwick. Complete racing resume. Complete sporting resume.
- 7.30 p.m.: Mr. Pim and Miss Pam in advertising talks and nonsense.
- 7.55 p.m.: Programme and other announcements.

EVENING SESSION.

Announcer: Basil Kirke.

- 8 p.m.: G.P.O. clock and chimes. Radio Eisteddfod: Finalists in the Radio Eisteddfod conducted by the New South Wales Broadcasting Company, Limited, will be heard, including the following sections:—Male choir, impromptu announcer, champion pianoforte solo, soprano solo, radio revue, male quartet, champion violin solo, bass solo, dance band, baritone solo, mezzo, saxophone solo, and grand vocal championship. Studio programme and "Yarns by a Wanderer."
- 10.0 p.m.: From Romano's, Bennie Abraham's Dance Orchestra.
- 10.15 p.m.: From the studio: Finalists in the Radio Eisteddfod.
- 10.45 p.m.: Late weather report and forecast.
- 10.47 p.m.: From Romano's, Bennie Abraham's Dance Orchestra.
- 11.0 p.m.: G.P.O. clock and chimes. From the studio: Resume of following day's programme and announcements.
- 11.3 p.m.: From Romano's, Bennie Abraham's Dance Orchestra. During the intervals between dance items, "Sun" news will be given.
- 11.30 p.m.: National Anthem.

2GB, SYDNEY

Saturday, December 8

- 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 8

- 5.30 p.m.: Bedtime stories, conducted by Uncle Jack. 6.30: Close down. 7.0 to 9.59: Musical programme. 10.0: Close down.

3LO, MELBOURNE

Saturday, December 8

- 7.15 a.m.: Morning melodies. 7.20 a.m.: Morning exercises to music. 7.30 p.m.: Stock reports; market reports; general news; shipping; sporting information. 8 a.m.: Melbourne Observatory time signal; express train information. 8.1 a.m.: Morning melodies. 8.15 a.m.: Close down.

MORNING SESSION.

Conductor: Frederick Hall.

Announcer: Frank Hatherley.

- 11 a.m.: Eric Welch will speak on to-day's races at Sandown Park. 11.10 a.m.: The Station Orchestra, "Menuet" (Grieg), "Berceuse" (Greig). 11.17 a.m.: Icsis Brown, soprano, "Danny Boy" (Wetherby), "Philosophy." 11.24 a.m.: The Station Orchestra, suite, "Orientale" (Popy). 11.34 a.m.: James Riley, tenor, "Who is Sylvia?" (Schubert), "Serenata" (Toselli). 11.41 a.m.: The Station Orchestra, "Serenade" (Widow), selection "Durch Zauberwald" (Weber). 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.

MIDDAY MUSICAL SESSION.

- 12.20: The Station Orchestra, "Philomena and Baucis" (Gounod). 12.30 p.m.: Icsis Brown, soprano, "By Dimpled Brook" (Arne), "Thou Art Like a Flower" (Schumann). 12.37 p.m.: Stock Exchange information. 12.40 p.m.: The Station Orchestra, "Suite" (Tchaikowsky). 12.50 p.m.: James Riley, tenor, "Now Sleeps the Crimson Petal" (Quilter), "Dreams" (Strelezki). 12.57: The Station Orchestra, fantasia, "In Sonnenwagen" (Gounod). 1.7 p.m.: Meteorological information; weather forecast for Victoria, Tasmania, South Australia, and New South Wales; ocean forecasts; river reports. 1.14 p.m.: Chas. Ulivi, baritone, selections from his repertoire. 1.38 p.m.: The Station Orchestra, "Le Chant des Bergers" (De Boisdeffre), "Le Precieuse" (Marie). 1.45 p.m.: Close down.

AFTERNOON SESSION.

- 2.13 p.m.: Description of Hurdle Race, two miles, at Sandown Park races, by Eric Welch. 2.20 p.m.: Description of pennant cricket match, Carlton v. South Melbourne, at Carlton, by Rod McGregor. 2.43 p.m.: Description of Trial Welter, six furlongs, at Sandown Park races. 2.50 p.m.: Description of pennant cricket match, Carlton v. South Melbourne, at Carlton. 3.13 p.m.: Description of Sandown Park races. 3.20 p.m.: Description of pennant cricket match, Carlton v. South Melbourne, at Carlton. 3.43 p.m.: Description of Sandown Park Handicap, 1½ mile, at Sandown Park races. 3.59 p.m.: Description of pennant cricket match, Carlton v. South Melbourne, at Carlton. 4 p.m.: Sonora recital. 4.13 p.m.: Description of Sandown Purse, one mile, at Sandown Park races. 4.20 p.m.: Description of pennant cricket match, Carlton v. South Melbourne, at Carlton. 4.43 p.m.: Description of Jumpers' Flat Race, 1½ mile, at Sandown Park races. 4.50 p.m.: Description of pennant cricket match, Carlton v. South Melbourne, at Carlton. 5 p.m.: "Herald" news. 5.10 p.m.: Description of pennant cricket match, Carlton v. South Melbourne, at Carlton.

EVENING SESSION.

Announcer: Maurice Dudley.

- 5.50 p.m.: Sporting results. 6 p.m.: Answers to letters and birthday greetings by "Little Miss Kookaburra." 6.25 p.m.: Musical interlude. 6.30 p.m.: "Little Miss Kookaburra" will tell the little ones "The Adventures of a Tiny Black Kitten," and then "The Story of Peter and Joan."

NIGHT SESSION.

Announcer: John Stuart.

Accompanist: Agnes Fortune.

- 7 p.m.: Stock Exchange information.
- 7.10 p.m.: River reports; market reports by the Victorian Producers' Co-operative Company, Ltd.; poultry, grain, hay, straw, jute, dairy produce, potatoes, and onions, market reports of fruit by the Victorian Fruit-growers' Association; wholesale prices of fruit by the Wholesale Fruit Merchants' Association; citrus fruits.
- 7.25 p.m.: News session; stumps scores of pennant cricket match, Carlton v. South Melbourne, at Carlton.
- 7.40 p.m.: Birthday greetings; "Out of the Past."
- 7.45 p.m.: Edward E. Pescott will speak on "Australian Plants—Grape Vines."
- 8 p.m.: "A Maker of History."
- 8.1 p.m.: For her miniature recital to-night Miss Agnes Fortune has chosen three different movements from Beethoven's sonatas: "Schezo in A Major," "Rondo in A Major," "Andante from Op. 14, No. 2."

- 8.15 p.m.: Northcote Citizens and Soldiers' Band. March, "Invercargill" (Lithgow).
- 8.20 p.m.: The Radio Merry-makers. "A Little Surprise."
- 8.50 p.m.: Northcote Citizens and Soldiers' Band. Waltz, "Myrine" (Laski).
- 8.58: Syd. Hollister, comedian. "Just for Fun."
- 9.5 p.m.: French Bros., banjoists. "The Sun Will Shine Again" (Sevene). "Camille" (O'Hagan).
- 9.12 p.m.: Northcote Citizens and Soldiers' Band. March, "Foden's Own" (Smith).
- 9.19 p.m.: Eric Welch will describe to-night's events at the Stadium.
- 9.35 p.m.: Northcote Citizens and Soldiers' Band. Solo, "Ora Pro Nobis" (Piccolomini).
- 9.41 p.m.: Dawn Harding, mezzo-soprano. "Second Minuet" (Besley). "Blue Sunbonnet."
- 9.48 p.m.: French Bros., banjoists. (By request.) "Dance Oriental" (French). "Chloe" (Moret).
- 9.55 p.m.: Northcote Citizens and Soldiers' Band. "Two Step."
- "What Happens After the Ball" (Allen).
- 10.1 p.m.: Eric Welch will again describe to-night's events at the Stadium.
- 10.15 p.m.: E. Mason Wood, baritone. "Go, Lovely Rose" (Quilter). "Cargoes" (Coningsby Clarke).
- 10.22 p.m.: Northcote Citizens and Soldiers' Band. Patriotic fantasia, "Britannia" (Rimmer).
- 10.35 p.m.: Dawn Harding, mezzo-soprano. "This is the Island of Gardens" (Coleridge-Taylor). "Perspicacity."
- 10.42 p.m.: Late sporting.
- 10.50 p.m.: Our Great Thought.
- 10.51 p.m.: The Radi-o-aces. "Googily Goo" (Davis). "Adoree" (West). "That Stolen Melody" (Fisher). "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). "Mother of Mine" (Jolson). "Rain" (Ruby). "Ramona" (Wayne). "Clarinet Marmalade" (Fergus). "Good-night Waltz" (Bibo).
- 11.40 p.m.: Close down.

3AR, MELBOURNE

Saturday, December 8

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: C. J. O'Connor.

Accompanist: Reg. Brown.

- 11.0: Radi-o-Aces: "Together" (Brown). "Mary Ann" (Davis), "The Riff Song" (Romberg). "Chinatown" (Yvain). 11.15 a.m.: Syd. Hollister, comedian, by permission of J. C. Williamson, Limited. Pithy pleasantries. 11.22 a.m.: Radi-o-Aces, "What was I to do?" (Reid), "Next to you I like me next to you" (Bito), "Shake it down" (Williams). "Lonely Acres" (Robinson). 11.37 a.m.: Syd. Hollister, comedian, Flippant Moments. 11.44 a.m.: Radi-o-Aces: "Anything you say" (Donaldson), "In a Bamboo Garden" (Donaldson), "Sweet Sue, Just Sue" (Tobias), "Too Busy" (Miller). 12.0 noon: Close down.

AFTERNOON SESSION.

Announcer: C. J. O'Connor.

Accompanist: Reg. Brown.

- 3.0 p.m.: Station Orchestra—Suite: "From the Countryside" (Coates), "Little Serenade" (Gruenfeldt). 3.15 p.m.: James Riley, tenor—"Because your love is mine" (Dorel), "It is a charming girl" (Benedict). 3.22 p.m.: Station Orchestra—"Fantasia: Souvenir" (Chopin). 3.32 p.m.: Icsis Brown, soprano—"If I build a world for you" (Lehmann), "The Cuckoo" (Lehman). 3.39 p.m.: Station Orchestra—"Dance Revels" (Phillips).

"Guitarre" (Moszkowski). 3.49 p.m.: Chas. Ulvi, bass—Selected. 3.56 p.m.: Station Orchestra—Suite: "Einesoiee" (Liszt), "Autumn" (Chaminade). 4.10 p.m.: James Riley, tenor—"Now sleeps the crimson petal" (Quilter), "Love's Old Sweet Song" (Molloy). 4.17 p.m.: Station Orchestra—"Three Dream Dances" (Coleridge Taylor). 4.27 p.m.: Icsis Brown, soprano—"We'll know, we'll understand" (Henry), "When the birds go north again" (Wileby). 4.34: Station Orchestra—Suite: "Cobweb Castle" (Lehmann). 4.44 p.m.: Chas. Ulvi, bass—Selected items. 4.51 p.m.: Station Orchestra—Selection: "The Count of Luxembourg" (Lehar).

EVENING SESSION.

Announcer: Maurice Dudley.

8.0 p.m.: A recital of the best recordings.

NIGHT SESSION.

Anonuncer: Maurice Dudley.

Accompanist: Reg. Brown.

8.0 p.m.: Results of cricket: England v. Combined Country, at Warwick. Racing results. Other sporting results.
8.30 p.m.: Johnston's Studio Band—Quickstep. "March at Ease"; Grand March, "Aida"; Ballad, "O Sole Mio."
8.45 p.m.: James Hay, tenor (by permission of J. C. Williamson, Ltd.), selections.
8.52 p.m.: Norman Fisher, flute—"Hungarian Fantasia" (Bachner), "Andalouse" (Pessard), "The Sandman" (Brahms).
9.0: James Hay, tenor—Selected items.
9.7 p.m.: Johnston's Studio Band—Selection. "Welsh National Airs."
9.17 p.m.: Ida and Lorraine Wright, duets—"Fairy Pipers" (Brewer), "May Day Morn" (Slater).
9.24 p.m.: One-act play—"Packing Up," presented by H. Beresford-Fowler, Mr. Chugwater, H. Beresford Fowler; Mrs. Chugwater, Joan Wisdom. Scene: Bedroom. Mr. Chugwater is in the act of shaving.
9.39 p.m.: Johnston's Studio Band—Selection, "Classica."
9.49 p.m.: Ida Wright, contralto—"Rosebud" (Drummond), "We'd Better Bide a Wee" (Claribel).
9.56 p.m.: C. E. Monteath, F.R.C.O.—Organ recital, transmitted from St. Peter's Church. "Prelude and Fugue No. 2 in G" (Mendelssohn), "Scotch Carol" (Guilmant), selection from "Scheherezade" (Rimsky-Korsakov), "Finale from 1st Organ Symphony" (Vierne).
10.15 p.m.: Lorraine Wright, soprano—"Il Bacio" (Arditi), "May Morning" (Denza).
10.22 p.m.: Sporting results.
10.29 p.m.: Our Australian Good-Night Quote.
10.30 p.m.: God Save the King.

4QG, BRISBANE

Saturday, December 8

MORNING SESSION

11.0 a.m.: From Buranda, Seventh Day Adventist Church service. 12.15 p.m.: Close down.

NO MID-DAY TRANSMISSION

AFTERNOON SESSION

Announcer: R. Wight.

From Ascot: Q.T.C. races. 9.0 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

8.0 p.m.: From the Studio, The Orpheans (conductor, T. Muller), Chorus, "Everybody's Singing" (Scott), J. P. Cornwell (bass), "The Lute Player" (Allitsen), Lucy Baker (pianist), "Arabesque" (Chaminade), The Orpheans, Octette, "Little Boy" (Park), C. Rice (tenor), "At Dawning" (Cadman), T. Muller (elocutionist), "Red Magee" (Mathien), Ray Bruce (tenor), "Till We Meet Again" (accompanied by The Orpheans), The Rio Grande Serenaders, in selected numbers.

George Williamson (tenor) and Tom Muller (baritone), Vocal duet, "O Salutaris" (Weigand), Lucy Baker (pianist), "Marche Grotesque" (Sinding), The Orpheans, Octette, "Don't Look At Me. I Pray" (Martini), F. Crane (baritone), "Ben the Bosun" (Adams), The Rio Grande Serenaders, in selected numbers, The Orpheans, Octette, "Fishing" (Parks), Ernest Harper (baritone), "Love's Old Sweet Song" (Molloy), with chorus by The Orpheans, The Rio Grande Serenaders, in selected numbers, The Orpheans, Octette, "The Meeting of the Waters" (Parks), "Revening and Bright" (Venue), Speedway—
9.15 p.m.: From Davies Park Speedway, a description of motor cycle races.
9.45 p.m.: From Lennon's Ballroom, Dance music.
10.30 p.m.: From the Studio—"Sunday Mail" news; weather news. Close down.

5CL, ADELAIDE

Saturday, December 8

MORNING SESSION.

Announcer: J. L. Norris.

11.0 a.m.: G.P.O. Chimes. 11.1 a.m.: Special late sporting selections for Sandown Park races, by 3LO's special commissioner, Mr. Eric Welch. 11.3 a.m.: "The Advertiser" general news service. 11.20 a.m.: British official Wireless news. 11.25 a.m.: Sonoral recital. Thirty minutes with celebrated Parlophone Artists. 11.55 a.m.: 5CL's sporting calendar. 12.0 noon: G.P.O. chimes. 12.1 p.m.: Sonora recital. A few more minutes with celebrated Parlophone artists. 12.30 p.m.: Close down.

AFTERNOON SESSION.

Announcer, J. L. Norris.

2.0 p.m.: G.P.O. chimes. 2.1 p.m.: Sandown Park races. Result of Hurdles, two miles. 2.5 p.m.: Sonora recital of world famous H.M.V. artists. 2.25 p.m.: A resume of sporting results. 2.30 p.m.: Station Orchestra. Overture, "The Golden Sep-tre" (Schlepegrell). 2.38 p.m.: The official opening of the wireless installation in the Adelaide Hospital by Lady Hore-Ruthven. 2.43 p.m.: Station Orchestra "Jumping Jacks" (Black). 2.43 p.m.: Aileen Newlyn, soprano, "Evening Song" (Schumann), "The Sandman" (Brahms). 2.50 p.m.: Station Orchestra, "The Pirates of Penzance" (Sullivan). 3.0 p.m.: Sandown Park race results. Taillem Bend race results. 3.3 p.m.: From the Adelaide Hospital, vote of thanks and supporting speeches. Station Orchestra, "The Bohemian Girl" (Balfe), Aileen Newlyn, soprano, "A Brown Bird Singing" (Wood), "My Mother bids me bind my hair" (Bishop). Station Orchestra, "Get Under the Moon." (Shay). 3.30 p.m.: From the Studio—Sandown Park race results, Taillem Bend race results. 3.35 p.m.: Archie and Wattie, entertainers, in comedy sketches. 3.43 p.m.: Herbert Edwards, pianist, "Colonial Song" (Grainger). 3.48 p.m.: Denis Sheard, tenor, "Santa Lucia." "Until" (Sanderson). 3.55 p.m.: Archie and Wattie, entertainers, humorous sketches. 4.0 p.m.: G.P.O. chimes. 4.1 p.m.: Sandown Park race results. Taillem Bend race results. From the Adelaide Hospital. 4.4 p.m.: Station Orchestra, "Musical Jigsaw." 4.14 p.m.: Aileen Newlyn, soprano, "La Serenata" (Tosti), "Thinking of you" (Coates). 4.21 p.m.: Station Orchestra, finale of popular songs. 4.30 p.m.: Denis Sheard, tenor, "When I go home" (Towner). 4.37 p.m.: Sonora recital of world famous Columbia recording. 4.55 p.m.: Resume of sporting results. 5.0 p.m.: G.P.O. chimes and close down.

EVENING SESSION.

Announcer: Athol Likke.

6.0 p.m.: G.P.O. chimes. 6.1 p.m.: Resume of late sporting. 6.10 p.m.: Birthday greetings, correspondence, songs and stories by "The Wattle Lady." 6.40 p.m.: Sonora recital, A few minutes' dinner music by famous parlophone artists. 7.0 p.m.: G.P.O. chimes. Market reports. 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

"A Prize Fighter on Horses." 7.25 p.m.: "Willow" will give a talk on the afternoon's cricket. 7.35 p.m.: C. G. Riley, talk on "Items of Interest." 7.45 p.m.: 5CL's sporting service, by "Silvius," including Taillem Bend and Sandown Park racing. Yachting, and other rowing results.

NIGHT SESSION.

8.0 p.m.: G.P.O. chimes.
8.1 p.m.: Metronola Dance Band. Foxtrot, "Afraid of you" (Davis), "Sunshine" (Berlin).
8.10 p.m.: Haydn Male Quartet, "A Vintage Song," "Larboard Watch."
8.16 p.m.: Bertha Jones, violiniste, "London-derry Air," "Hungarian Dance" (Brahms).
8.23 p.m.: Archie and Wattie, entertainers, in a humorous sketch.
8.30 p.m.: Metronola Dance Band, Onestep, "Ice Cream" (Johnson), foxtrot, "Shanghai Dreams" (Davies).
8.40 p.m.: Meta Riedel, mezzo, "Mifanwy" (Foster), "The Moorish Maid" (Parker).
8.47 p.m.: Muriel Prince, pianiste, "Colonial Song" (Grainger).
9.1 p.m.: Haydn Male Quartet, "My Old Kentucky Home," "Sittin' Round the Fire."
9.7 p.m.: Metronola Dance Band, "Look in the Mirror" (Stept), "Are you lonesome to-night?" "That's my weakness now."
9.20 p.m.: Gerald Healy, tenor, "Sally Horner," "Good Company" (Adams).
9.27 p.m.: Bertha Jones, violiniste, "Traumeri" (Schumann), "Woodland Sprites" (Stoessel).
9.34 p.m.: Meta Riedel, mezzo, "Lullaby" (Brahms), "To-night" (Zardo).
9.41 p.m.: Metronola Dance Band, "Get Out and get Under the Moon" (Shay).
10.5 p.m.: Gerald Healy, tenor, "My Prayer" (Squire), "When Song is Sweet" (Sans Sousa).
10.8 p.m.: Metronola Dance Band, Popular song hits.
10.15 a.m.: 55L's sporting service, by "Silvius," including Taillem Bend, Sandown Park race results, yachting and other rowing results.
10.28 p.m.: Station announcements.
10.29 p.m.: Our Good-night Thought.
10.30 p.m.: Modern dance numbers by the famous Radi-o-Aces.
11.10 p.m.: God Save the King.

6WF, PERTH

Saturday, December 8

12.0 noon: Tune in. 12.5 p.m.: Musical programme, including pianoforte selections, by Miss Audrey Dean. 12.47 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. 1.2 p.m.: Close down. 1.55 p.m.: Tune in. 2 p.m.: Sporting session. At intervals during the afternoon results will be given of the cricket match between the English Eleven and Combined Country, played at Warwick. 3.30 p.m.: Musical programme from the studio, including vocal and instrumental numbers, Racing results and general sporting news. 5.15 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: Birthday greetings 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.: Stocks, markets, news. 7.45 p.m.: Talk. 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.: Music and song. Musical programme from the studio, including vocal and instrumental artists. Motor cycling events described in detail, relayed from Claremont Speedway. 9 p.m.: Late news items by courtesy of "The Daily News" Newspaper Co., ships within range announcement, weather report and forecast, station announcements. 10.30 p.m.: Close down. 104.5 METRE TRANSMISSION
Simultaneous broadcast on 104.5 metres of programme given in 1250 metres, commencing at 6.45 p.m.

7ZL, HOBART

Saturday, December 8

(Announcer: Jack Broadbent.)

11.30 a.m.: His Master's Voice, in moments merry and musical. 11.34 p.m.: Special midlands weather forecast. 11.35 p.m.: His Master's Voice, in moments merry and musical. 11.55: Tasmanian stations' a.m. weather report. 12 noon: G.P.O.

How to Build Your Own Receiver

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

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PARTS REQUIRED

	£	s.	d.		£	s.	d.
1 Aluminium Panel, 18in. x 8in. (14 Gauge)	0	5	0	1 5 Meg. Ohm Grid Leak, with Clip Mounting	0	2	6
1 Aluminium Sub-Panel, 17½in. x 8in. (14 Gauge)	0	5	0	3 UX Anti-Vibration Valve Sockets, Emmco	0	7	6
2 Airzone Sub-Panel Brackets ...	0	3	6	2 Pilot Vernier Dials	0	13	6
1 Radiokes Solodyne Aerial Coupler	1	5	0	12 Terminals	0	3	0
1 Radiokes Split Secondary Coil	1	5	0	1 Single Circuit Jack	0	1	7
2 Emmco Variable Condensers, .0005 S.L.F.	1	5	0	1 Philips A442 Screen Grid Valve	1	10	0
1 Ferranti AF3 Audio Transformer	2	5	0	1 Mullard PM4D Valve	0	15	0
1 Radiokes R.F. Choke	0	8	6	1 Philips B443 Penthode Valve.	1	17	6
1 30 Ohm Rheostat	0	3	6	3 Columbia 45 Volt "B" Batteries, Large Capacity	3	15	0
1 400 Ohm. Potentiometer	0	4	6	Or 150 Volt Small Capacity "B" Battery	2	3	6
1 Filament Switch	0	2	0	15 Volt "C" Battery	0	6	0
1 Wetless .0001 19-Plate Midget Variable Condenser	0	8	6	7 Way Battery Cable	0	3	6
1 Wetless Type B .00025 Grid Condenser	0	2	3	18 Lengths Bus Bar Wire	0	1	3
				3 Lengths Spaghetti	0	1	3
				½ Brass Screws, with Nuts, per doz.	0	0	7½
				½ N.P. Brass Screws, with Nuts, per doz	0	0	10

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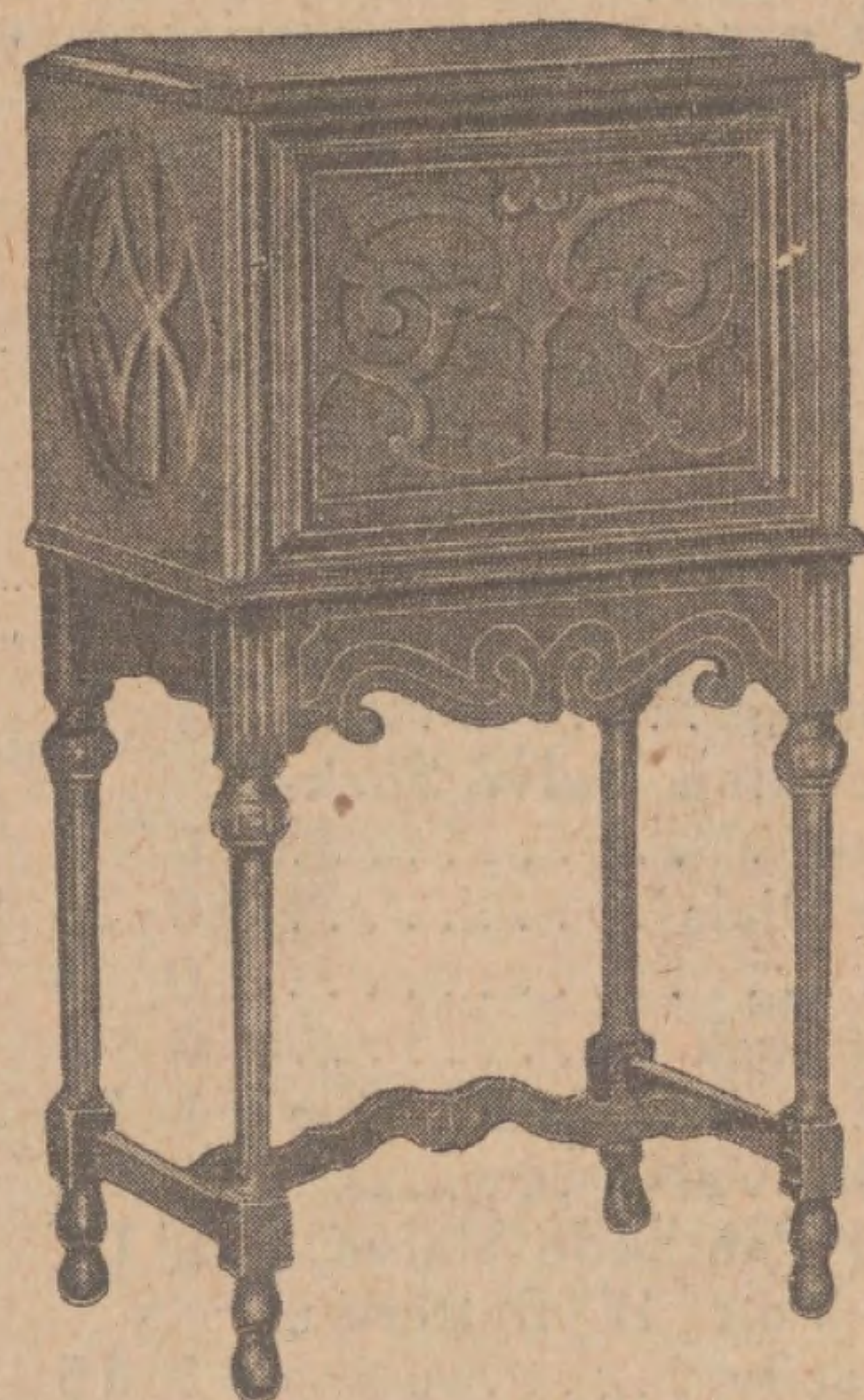
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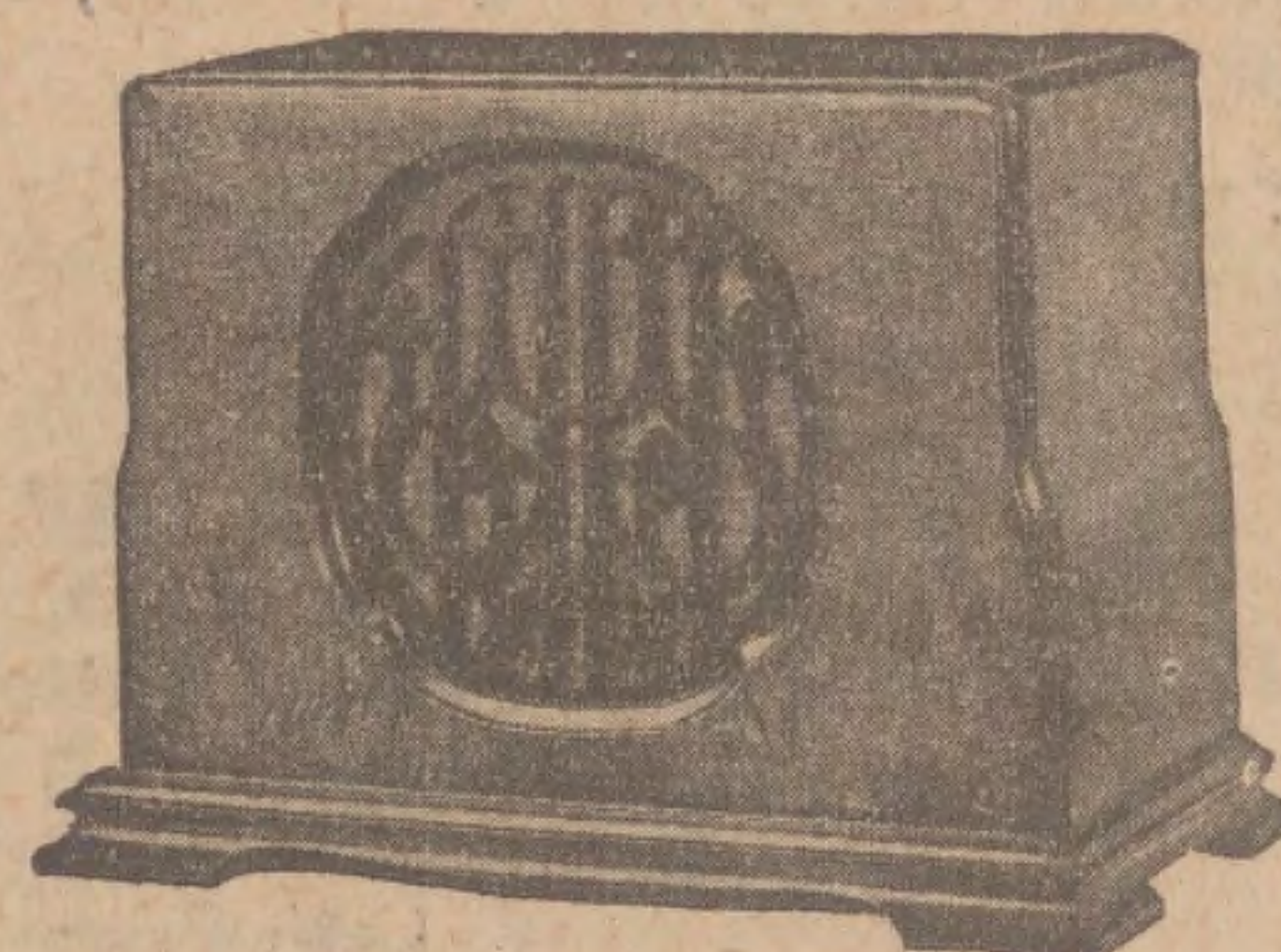
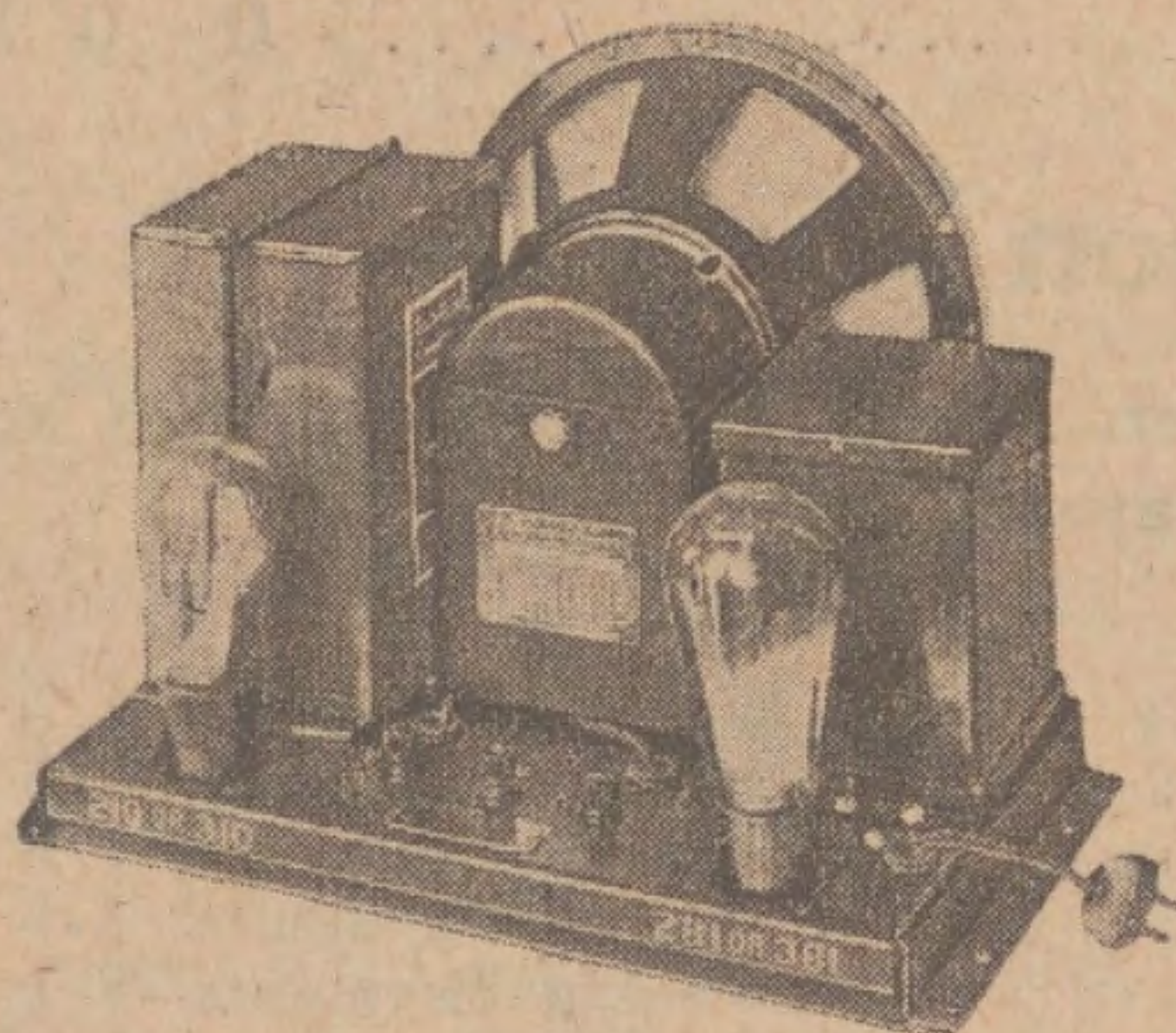
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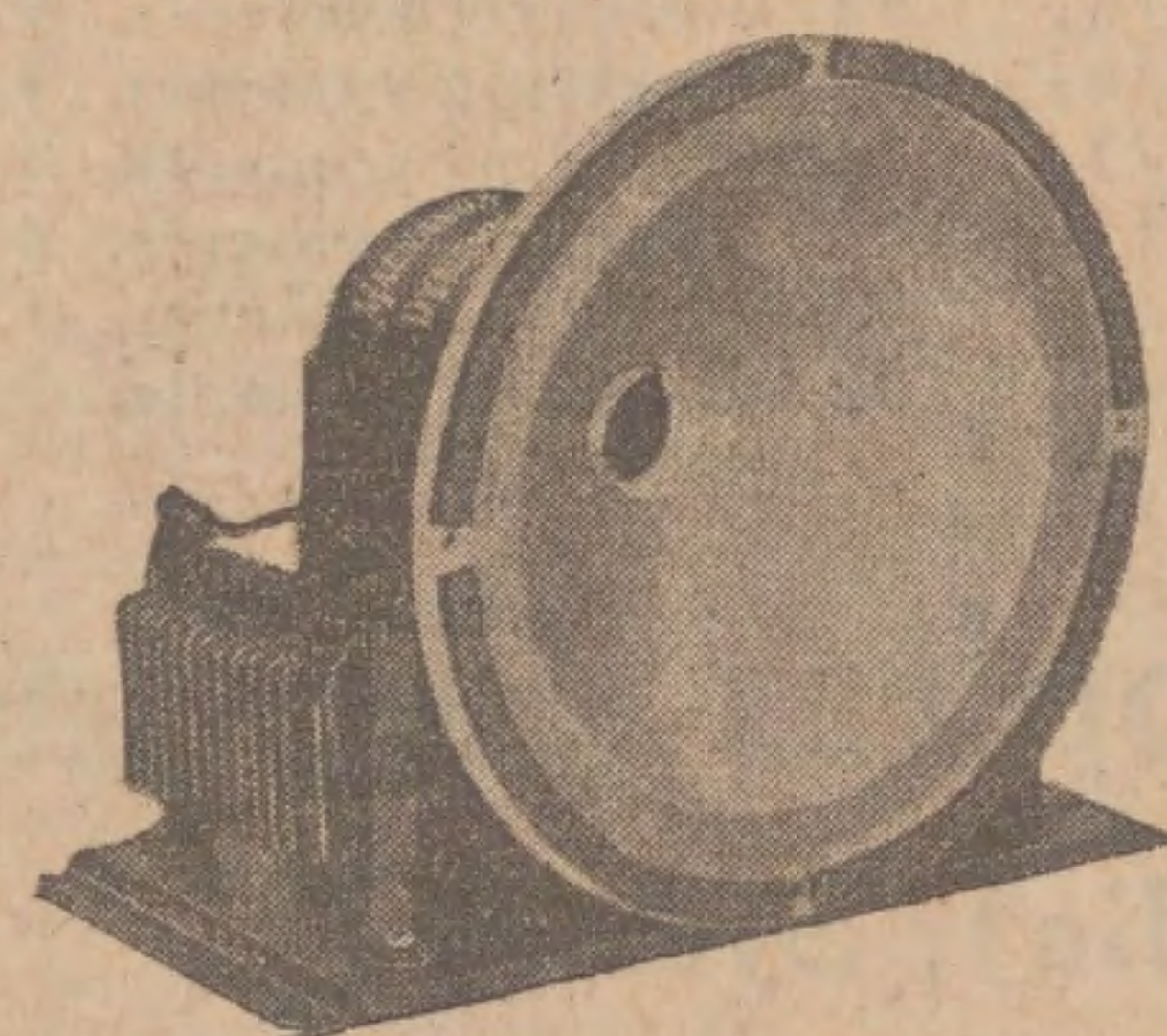


The BEVERLEY SENIOR

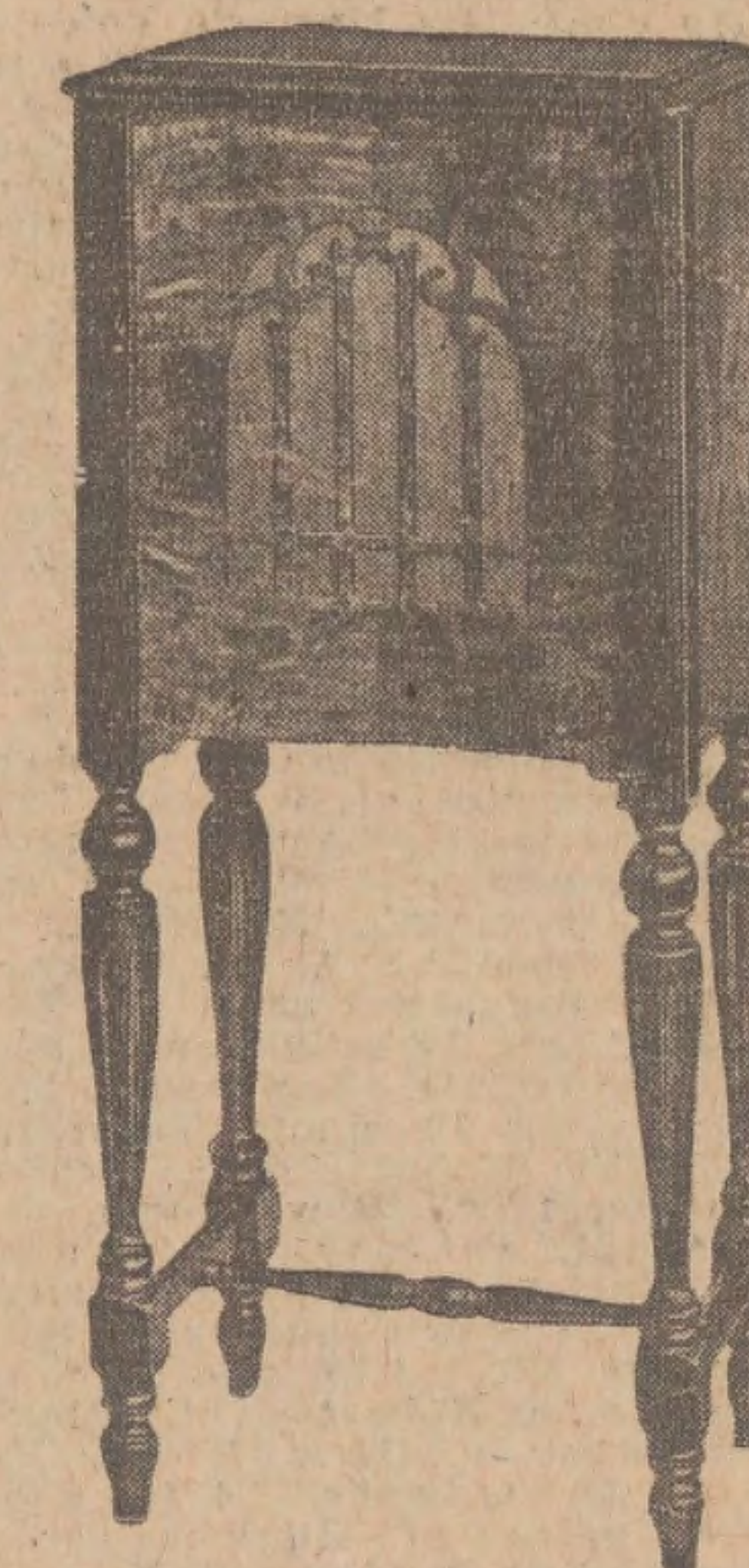
No. 700 DYNAMIC UNIT

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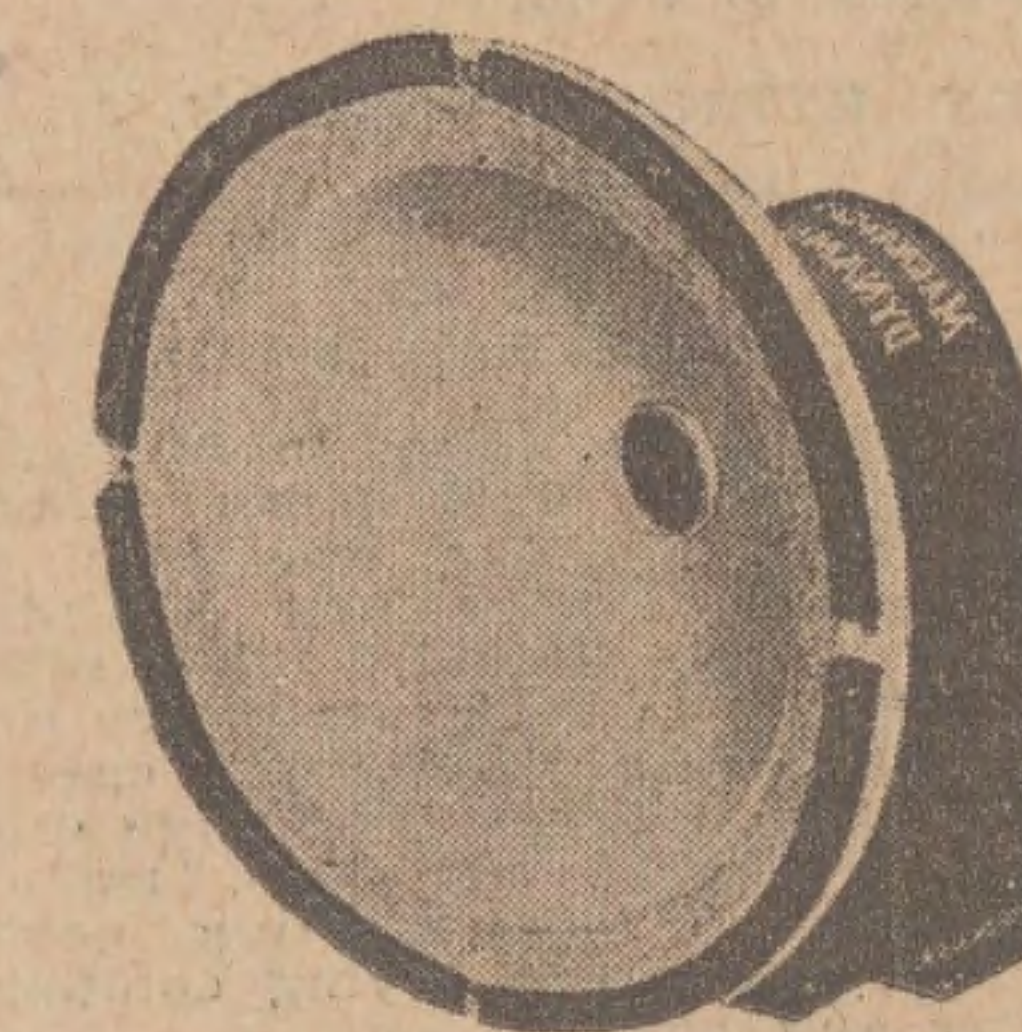
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The BEVERLEY JUNIOR



The ARISTOCRAT



DYNAMIC UNIT 7

110 to 220 volts D.C. field current, consumption 45 to 90 milliamperes.

Unit, £7/15/-



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Beverley Junior	£10	£10	£10	—
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Belvedere	£11/10/-	£11/10/-	£11/10/-	£14/10/-
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240 volts A.C. Has power transformer and dry rectifier. Designed to operate with any set where electric light is available.

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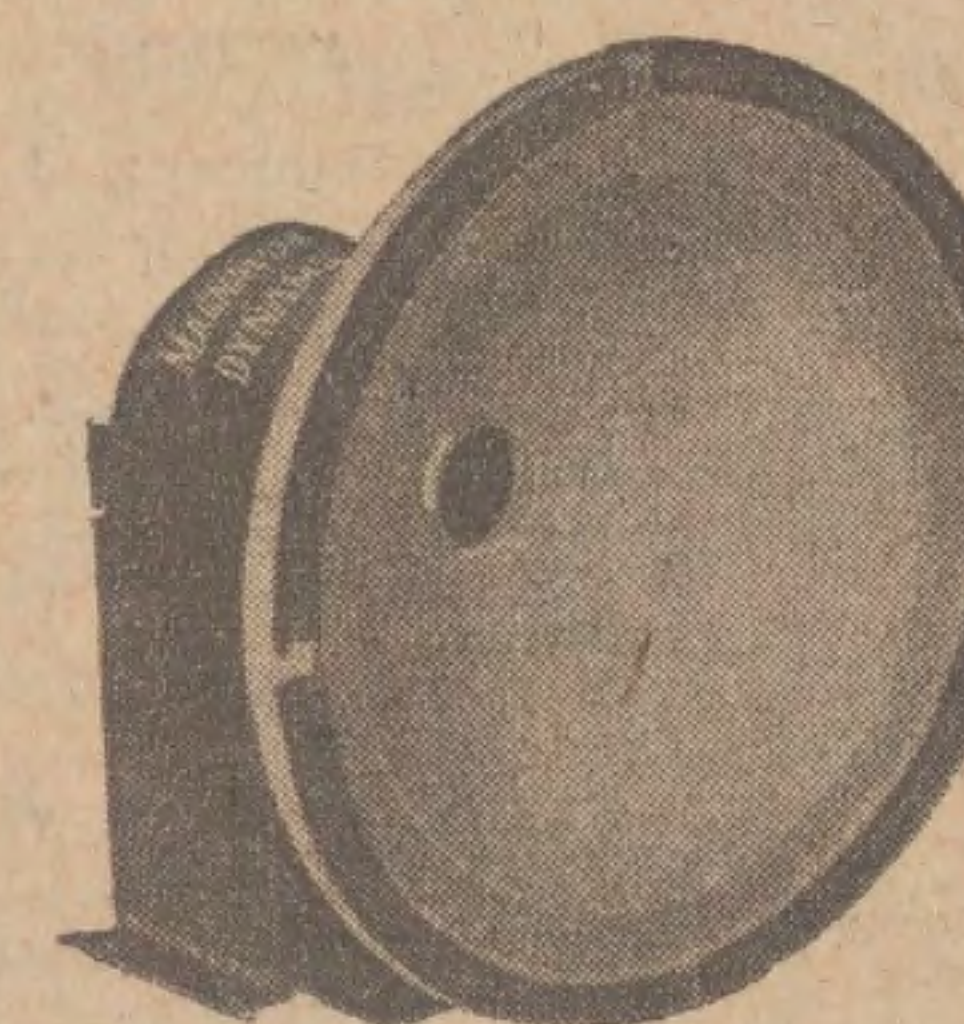
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6 to 12 volts D.C. field, at 1.1. to 2.2 amps. Operates from dry rectifier or from 1 or 2 6-volt accumulators.

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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.: Anticipations; 3LO 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: Running description of Hurdle Race, two miles, run at Sandown Park racecourse, Sandown, Melbourne, Victoria. 2.20 p.m.: Transmission from North Hobart Oval, cricket match, North-west v. New Town, described by A. M. O'Leary. 2.45 p.m.: Running description of Trial Welter, six furlongs, run at Sandown Park racecourse, Sandown, Melbourne, Victoria. 2.50 p.m.: Transmission from North Hobart Oval, cricket match, North-west v. New Town, described by A. M. O'Leary.

AFTERNOON SESSION.

3.15 p.m.: Running description of Sandown Plate, six furlongs, run at Sandown Park racecourse, Sandown, Melbourne, Victoria. 3.20 p.m.: Transmission from North Hobart Oval, cricket match, North-west v. New Town, described by A. M. O'Leary. 3.45 p.m.: Running description of Sandown Park Handicap, 1½ mile, run at Sandown Park racecourse, Sandown, Melbourne, Victoria. 3.50 p.m.: Transmission from North Hobart oval, cricket match, North-west v. New Town, described by A. M. O'Leary. 4.15 p.m.: Running description of Sandown Purse, one mile, run at Sandown racecourse, Sandown, Melbourne, Vic. 4.20 p.m.: Transmission from North Hobart oval, cricket match, North-west v. New Town, described by A. M. O'Leary. 4.45 p.m.: Running description of Jumpers' Flat Race, 1½ mile, run at Sandown Park racecourse, Sandown, Melbourne, Victoria. 4.50 p.m.: All sporting results to hand. 5 p.m.: Close down; during the afternoon progress results will be given of cricket match, English XI. v. Combined Country, at Warwick, Queensland, also results of Tasmanian Trotting Club. 6 p.m.: All sporting results to hand.

EARLY EVENING SESSION.

Children's Hour. Birthday greetings, "Uncle David."

(Announcer: Jack Broadbent.)

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 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.: "Mercury" special information; Hobart Stock Exchange quotations; to-day's golf, athletics, racing, cricket; "Mercury" late sporting news; results of New Town egg laying competition; homing and bowling.

EVENING SESSION.

(Announcer: Jack Broadbent.)

7.30 p.m.: T. W. Simpson will speak on "Swimming." 7.45 p.m.: Serial story, "The Nobbled Favorite," a stirring story of the turf (second instalment). 8 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.: His Master's Voice, in moments merry and musical. 8.30 p.m.: Transmission from Continental, Macquarie Street, Hobart, Theo Pipkin and His Continental Orchestra, interspersed with gramophone records and player rolls, "After My Laughter Came Tears" (Tobias), "Lonesome in the Moonlight" (Baer), "Get Out and Get Under the Moon" (Tobias), "Jumping Jacks" (Bloom), "One Alone" (Romberg), "Is It Goona Be Long?" (Cowan), "Desert Song" (Romberg), "Lolita" (Stoneham), "The Man I Love" (Gershwin), "That's My Weakness Now" (Stept), "Gotta Big Date With a Little Girl" (Tobias), "Sometimes I'm Happy" (Youmans), "Rio Rita" (Tierney), "Kinkojou" (Tierney), "Chiquita" (Wayne), "The Sweetheart of Sigma Chi" (Vernon). 10.20 p.m.: From the studio; to-day's sporting results; "Mercury" special news service; ships within wireless range; Tasmanian district weather reports; bowling, homing, cricket, tennis. 10.22 p.m.: Our Tasmanian Good-night Thought, "Discretion in speech is more than eloquence" (Bacon). "God Save the King" Close down.

Sunday, December 9

New South Wales Broadcasting Company Limited.

2FC SERVICE

MORNING SESSION.

Announcer: A. S. Cochrane.

10 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.: Morning service broadcast from the Cathedral Church of St. Andrew, Sydney.
12.15 p.m. (approx.): Close down.

AFTERNOON SESSION.

Announcer: A. S. Cochrane.

2.30 p.m.: Programme announcements.
2.32 p.m.: Children's session, conducted by the "Hello Man."
3.0 p.m.: Grand Christmas Festival of Music. "The Messiah" (Handel), broadcast from the Lyceum Hall, Pitt Street.
Chairman: Rev. H. C. Foreman, M.A.
Principals: Miss Elsie Findlay, soprano.
Miss Bessie Cooke, contralto.
Mr. Robert Scott, tenor.
Mr. Oliver King, bass.
Conductor: Mr. V. W. Peterson, B.A., B.Ec.
Organist: Miss Constance Bardsley, L.T.C.L.

PART I.

Overture, "First Movement."
Tenor, Recit., "Comfort Ye My People."
"Every Valley Shall be Exalted."
Tenor-Aria.
Chorus, "And the Glory of the Lord."
Bass-Recit., "Thus Saith the Lord."
Bass-Aria, "But Who May Abide."
Contralto-Recit., "Behold a Virgin Shall Conceive."
Contralto-Aria, "O, Thou that Tellest Good Tidings."
Chorus, "O, Thou that Tellest Good Tidings."
Bass-Recit., "For, Behold, Darkness."
Bass-Aria, "The People that Walked in Darkness."
Chorus, "For unto Us a Child is Born."
Offertoire and announcements.
Organ solo, Miss Constance Bardsley, L.T.C.L.

PART II.

Pastoral Symphony.
Soprano-Recit., "There were Shepherds."
Soprano-Recit., "And Lo! The Angel of the Lord."
Soprano-Recit., "And the Angel said unto Them."
Soprano-Recit., "And Suddenly there war."
Chorus, "Glory to God in the Highest."
Soprano-Aria, "Rejoice Greatly."
Contralto-Recit., "Then Shall the Eyes of the Blind."
Contralto-Aria, "He Shall Feed his Flock."
Soprano-Aria, "Come unto Him."
Chorus, "Behold the Lamb of God."
Contralto-Aria, "He was Despised."
Chorus, "Surely He Hath Borne."
Chorus, "All We like Sheep."
Tenor-Recit., "Thy Rebuke hath Broken His Heart."
Tenor-Aria, "Behold! And See."
Tenor-Recit., "He was Cut Off."
Tenor-Aria, "But Thou Didst Not Leave."
Chorus, "Hallelujah."
Soprano-Aria, "I Know that my Redeemer Liveth."
Chorus, "Worthy is the Lamb."

AMEN.

Benediction.
4.45 p.m.: Studio music.
5.0 p.m.: "Big Ben;" close down.

EVENING SESSION.

Announcer: A. S. Cochrane.

6 p.m.: "Big Ben;" the Tuneful Three, instrumentalists.
6.10 p.m.: Joyce Hadley, soprano.
6.17 p.m.: The Tuneful Three, instrumentalists.
6.27 p.m.: Florence Yates, contralto.
6.34 p.m.: The Tuneful Three, instrumentalists.
6.44 p.m.: Joyce Hadley, soprano.
6.52 p.m.: Florence Yates, contralto.
7.0 p.m.: Evening service broadcast from the Pitt Street Congregational Church. Minister, Rev. T. E. Ruth. Organist, Miss Lillian Frost.
8.25 p.m.: From St. Francis Church, Albion Street, sacred concert under the direction of the Rev. G. Ellis Herlihy.

First Part:

Overture (selected), Miss Marie Toohey.
8.30 p.m.: 1. Chorus, (a) "Gloria, Laus et Honor" (Griesbacher).
8.31 p.m.: (b) "Tu es Petrus" (Sarmasarro).
8.32 p.m.: 2. Vocal solo: (a) "Care Salve" (Handel).
8.36 p.m.: (b) "Ave Maria" (Gounod).
Myra O'Neill.
8.42 p.m.: 3. Chorus (a) "Kyrie" (Gruber).
8.44 p.m.: (b) "Requiem" (Gruber).
St. Francis' Choir.
8.47 p.m.: 4. Pianoforte solo: (a) "Raindrop Prelude" (Chopin).
8.53 p.m.: (b) "Revolutionary Study" (Chopin).
Lottie Dearn.
8.56 p.m.: 5. Chorus: (a) "Adoro te" (Chas-sang).
8.58 p.m.: (b) "La Vregine degli Angeli" (Verdi).

St. Francis' Choir.

9.1 p.m.: 6. Vocal solo, "O God Have Mercy" (Mendelssohn).

Oliver King.

9.5 p.m.: 7. Chorus, Gloria in Excelsis" (Gruber).

St. Francis' Choir.

9.10 p.m.: From the studio: Lindley Evans, pianist.

9.17 p.m.: From St. Francis Church, Albion Street, sacred concert under the direction of the Rev. G. Ellis Herlihy.

Second Part:

Overture (selected), Marie Toohey.
9.20 p.m.: 8. Chorus: (a) "O Sacrum Convivium" (Bentivoglio).
(b) "Sanctus" (Ett).
St. Francis' Choir.
9.25 p.m.: 9. Vocal solo, "Rejoice Greatly" (Handel).
Myra O'Neill.
9.30 p.m.: 10. Chorus: (a) "De Profundis" (Edenhoper).
(b) "Magnifica Col Sensi" (Chiappain).
St. Francis' Choir.
9.33 p.m.: 11. Pianoforte solo, "Andante Finale," left hand only (Leschetizsky).
Lottie Dearn.
9.38 p.m.: 12. Chorus (a) "Mystorium Ecclesiae" (Perosi).
(b) "Christus Vincit" (Taverna).
St. Francis' Choir.
9.43 p.m.: 12. Vocal solo, "How Willing my Paternal Love" (Handel).
Oliver King.
9.48 p.m.: 14. Chorus, "Te Deum" (Gruber).
St. Francis' Choir.
9.56 p.m.: From the studio, Lindley Evans, pianist.
10.11 p.m.: Recital of selected records of the world's greatest artists.
10.30 p.m.: National Anthem; close down.

2BL SERVICE

Sunday, December 9

MORNING SESSION.

Announcer: A. C. C. Stevens.

11 a.m.: G.P.O. clock and chimes. Morning service broadcast from Chalmers Street Presbyterian Church, Sydney. Minister, Rev. D. F. Brandt.
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.: Organ recital from St. John's Church of England, Balmain. Organist, Mr. H. E. Sheppard.
4.0 p.m.: Pleasant Sunday Afternoon, broadcast from Leichhardt Methodist Mission. Minister, Rev. H. H. Allen.
5.0 p.m.: G.P.O. clock and chimes; close down.

EVENING SESSION.

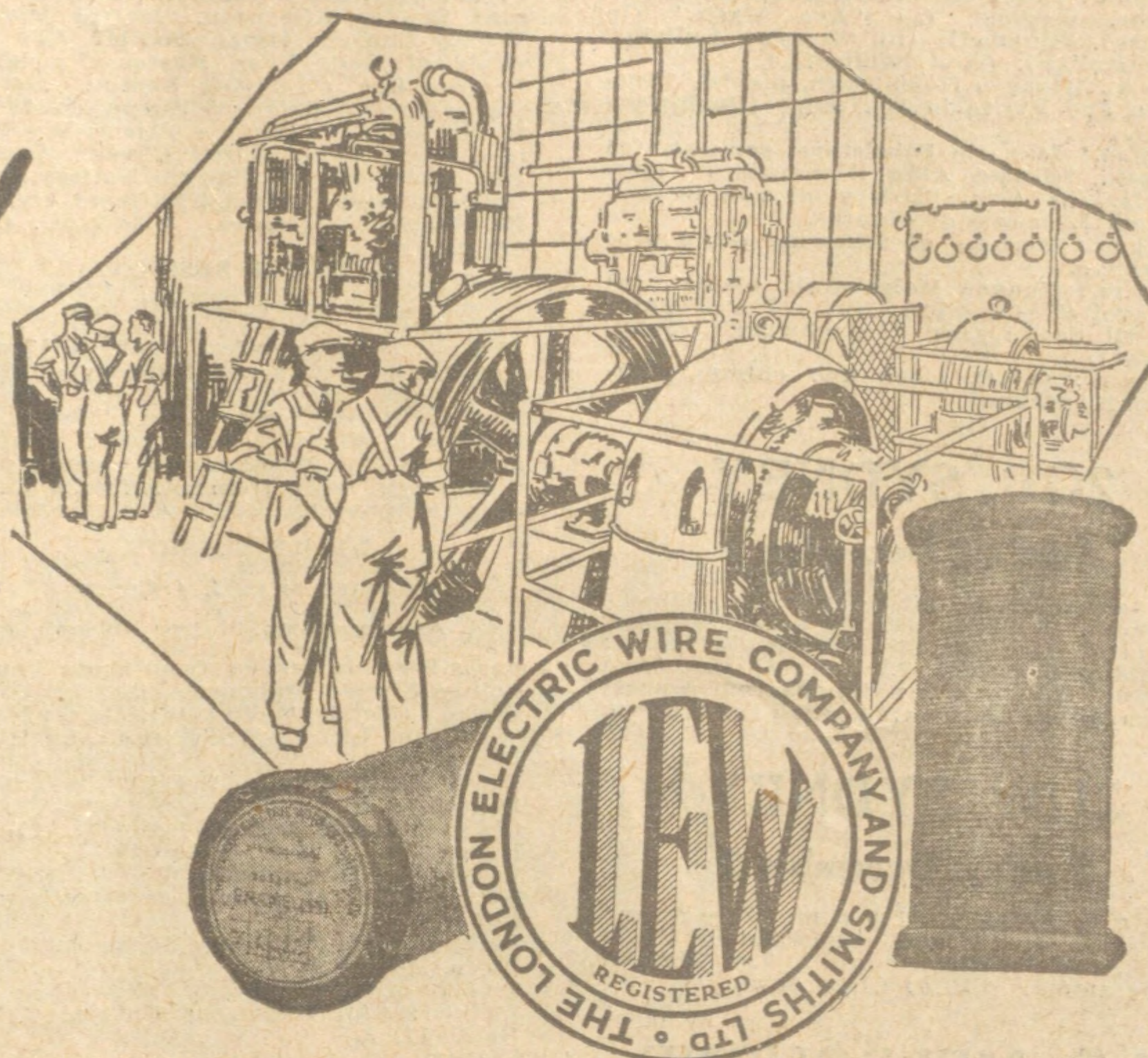
Announcer: J. Knight Barnett.

6 p.m.: G.P.O. clock and chimes. Children's sacred session, conducted by Uncle David, the children's Chaplain. Introducing Uncle David; popular chorus, introduced by Uncle David, "God's Love is Like the Sunshine"; Bible story, "A Call Through the Roof"; family prayer and recitation of the Lord's Prayer; an old favorite hymn that mother sings; Good-night and the children's Benediction.
6.20 p.m.: Letters and stories, conducted by Uncle Peter.
7.0 p.m.: Evening service, broadcast from Holy Trinity Church of England, Dulwich Hill. Rector, Rev. F. W. Tugwell.

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- 8.30 p.m.: The Manly Municipal Military Band, broadcast from the Band Rotunda, Manly Beach. (Conductor, Mr. James Pheloung.)
- 9.30 p.m.: From the studio, Jeanette Ethelstone, soprano, (a) "Ave Maria" (in Latin), (Gounod), (b) "Russian Lullaby" (in Italian), (Gretchaninoff).
- 9.37 p.m.: Haagen Holenbergh, pianist, "Toccata and Fugue in D Minor" (Bach-Tan-sig).
- 9.44 p.m.: Jeanette Ethelstone, soprano, (a) Recit., "Giunse Alfin il momento" (Mozart), (b) Aria, "Deh vieni non tardar" (from Le nozze di Figaro).
- 9.51 p.m.: Resume of following day's programme.
- 9.53 p.m.: Haagen Holenbergh, pianist, (a) "Gavotte" (Handel), (b) "The Jungle" (Cyril Scott), (c) "Aufschwung" (Schumann).
- 10.0 p.m.: G.P.O. clock and chimes. National Anthem.

2GB, SYDNEY

Sunday, December 9

- 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 9

- 10.30 a.m.: Music. 1.0 p.m.: Close down. 5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: Musical programme. 10.0: Close down.

3LO, MELBOURNE

Sunday, December 9

MORNING SESSION.

Announcer: C. J. O'Connor.

- 10.30 a.m.: Express train information. 10.32 a.m.: Bells from St. Paul's Cathedral, Melbourne. 10.45 a.m.: Service from St. Paul's Cathedral, Melbourne. Sentence; Exhortation; General Confession; The Absolution; The Lord's Prayer; Versicles and Responses (Ferial); The Venite; Psalm 119, verses 105-136; First Lesson; The Te Deum—Stainer in E Flat; Second Lesson; The Benedictus—Stainer in E Flat; The Apostles' Creed; Versicles and Responses; Collects; Anthem, "Lord, Let Me Know Mine End" (Goss); The Litany; Hymn (A. and M.), 47, "Hark, a Thrilling Voice is Sounding"; Sermon—The Archbishop; Hymn 531—"Father of Mercies"; The Benediction. From the studio:—12.15 p.m.: British official wireless news from Rugby. News from yesterday's papers. 12.25 p.m.: Close down.

AFTERNOON SESSION.

Announcer: C. J. O'Connor.

- 2 p.m.: Sonora recital of the world's most famous records:—1.—Instrumental octet; "Octet in F Major," Op. 166 (Schubert). Lener string quartet and C. Hobday, C. Draper, E. W. Hinchcliff, and Aubrey Brain. Part 1: First Movement—Adagio Allegro (first part). Part 2: First Movement—Allegro (second part). Part 3: First Movement—Allegro (concluded). Part 4: Second Movement—Andante un poco mosso (first part). Part 5: Second Movement—Andante un poco mosso (second part). Part 6: Second Movement—Andante un poco mosso (concluded). Part 7: Third Movement—Scherzo. Allegro Vivace. Part 8: Fourth Movement—Air and Variations, Andante. Part 9: Fourth Movement—Air and Variations (concluded). Part 10: Fifth Movement—Minuetto and Trio—Allegretto. Part 11: Sixth Movement—Finale. Andante molto; Allegro. Part 12: Sixth Movement—Finale. Allegro; Andante molto; Allegro molto (concluded). 2.—Orchestral: "La Gioconda"—Dance of the Hours, parts 1 and 2. (Ponchielli). Court symphony orchestra. Conductor: Norman O'Neill. 3.—Violin solo: "Valse Bluette" (Drigo, arr. Auer). Pascha Helfetz. 4.—Organ solo: "Le Cygne" (Saint-Saens). Liberal Jewish Synagogue organ, St. John's Wood, London, played by G. T. Pattman. 5.—Aria,

"Nella calma"—Romeo and Juliette (Gounod). Amelita Galli-Curci, soprano. 6.—Orchestral: "Amaryllis"—Air Louis XIII. (Ghys). Victor concert orchestra, conducted by Rosario Bourdon. 3 p.m.: Pleasant Sunday afternoon, Central Mission, Wesley Church: Hymn No. 112, "Ye Servants of God, Your Master, Proclaim." Prayer: Rev. C. Irving Benson. Orchestral selection, G. M. Williams, conductor. Hymn No. 87: "What a Friend We Have in Jesus." Solo, Muriel Cheek. Orchestra. Solo, Muriel Cheek. Notices; offering; orchestra; address, National Anthem; Benediction; orchestra. 4.30 p.m.: Close down.

EVENING SESSION.

Announcer: C. J. O'Connor.

- 5.45 p.m.: Shipping information. 5.47 p.m.: Answers to letters and birthday greetings by "Plain Peter." 6.25 p.m.: "Brother Bill" will tell you about "God's Big, Beautiful World." 6.45 p.m.: Birthday greetings and programme announcements. 6.47 p.m.: Bells from St. Paul's Cathedral, Melbourne.

NIGHT SESSION.

Announcer: C. J. O'Connor.

Accompanist: Mabel Nelson.

- 7 p.m.: Evening service from Scots Church, Collins Street, Melbourne. Psalm (Metrical Version), 24, v. 7-10. "Ye Gates Lift Up Your Heads on High." Prayer. Prose Psalm 130 and 131, "Out of the Depths." Old Testament lesson, Isayah 1, 10-20. Hymn 234. Prayer of Intercession. New Testament lesson, St. Matthew 11, 1-15. Anthem, from "The Last Judgment," "And Lo, a Mighty Host." The Lord's Prayer. Sermon: "An Impatient Enthusiast," St. Matt. 11, 3. Prayer. Hymn 110, "Thy Kingdom Come, O God." Intimations. Offering. Hymn 617, "Saviour, Again to Thy Dear Name." Benediction.
- 8.30 p.m.: Malvern Tramways' Band (conductor, T. Campbell). Selection, "Les Huguenots" (Meyerbeer).
- 8.44 p.m.: Mary Mack, contralto. "He Was Despised" (Mendelssohn).
- 8.51 p.m.: Malvern Tramways' Band. March, "Invincible" (Rimmer).
- 8.56 p.m.: Rene Bregozzi, violin. "Aria on the G String" (Bach). "Largo" (Veracini-Corti).
- 9.6 p.m.: Peter Gawthorne, baritone. (By permission of J. C. Williamson, Ltd.) "The West Wind" (Sir Chas. Villiers Stanford). "Did You Ever" (Sir Villiers Stanford).
- 9.13 p.m.: Malvern Tramways' Band. Cornet solo selection. Soloist, J. Alway.
- 9.18 p.m.: Mary Mack, contralto. "Trees" (Rasbach).
- "Our Prayer" (Goodhart).
- 9.25 p.m.: Rene Bregozzi, violin. "First Movement Concerto" (Mendelssohn).
- 9.35 p.m.: Peter Gawthorne, baritone—"Don Juan's Serenade" (Tschalkowsky). "Love the Jester" (Phillips).
- 9.42 p.m.: Malvern Tramways' Band. Selected.
- 9.50 p.m.: Argus news session. Announcements. Our Great Thought.
- 10 p.m.: God Save the King.

3AR, MELBOURNE

Sunday, December 9

MORNING SESSION.

- 10.45 a.m.: Announcements. 11 a.m.: Service from Scots Church, Collins Street, Melbourne. Preacher: Rev. W. Borland, M.A., D.D. Psalm (Metrical Version) 68, V.V. 18-20, "Thou hast, O Lord, most glorious." Prayer. Prose Psalm 103, "Bless the Lord, O my Soul." Old Testament Lesson, Gen. 12 1-9. Hymn 113, "Thou are coming, O my Saviour." Prayer of Intercession. New Testament Lesson—Hebrews 11, 1-10, and 24-27. Anthem, "Praise the Lord" (Hayes). The Lord's Prayer (the congregation, standing, will unite). Sermon: "A Venture Worth Making" (Hebrews 11, 8). Prayer. Intimations. Offering. Hymn 269, "Who is on the Lord's side." Benediction.

AFTERNOON SESSION.

Announcer: C. J. O'Connor.

- 3 p.m.: A recital of the world's masters. 4.30 p.m.: Close down.

CHILDREN'S SESSION.

- 5 p.m.: "Brer Rabbit," in a special children's session. 5.30 p.m.: Close down.

NIGHT SESSION.

Announcer: C. J. O'Connor.

Accompanist: Vera Howe.

- 6.40 p.m.: Service from Central Mission, Wesley Church, Lonsdale Street. Organ recital by Mr. William G. James. Introit, "The Lord is in His Holy Temple." Prayer: "The Outer Gate." Hymn: "O Lord of Heaven, and Earth, and Sea." Prayer: "The Inner Court." Anthem. Scripture reading. Intimations and offering. Anthem: "As with Gladness Men of Old." Book sermon by Rev. C. Irving Benson. Hymn: "Sun of My Soul" (by request). Benediction. Sevenfold Amen.

FROM THE STUDIO.

- 8.30 p.m.: Austral Quartette—Julia Russell, soprano; Vida Lugg, piano; Dorothy Taylor, violin; Jean Buchanan, cello. Trio: "Trio in E Flat Major, 1st Movement" (Beethoven). Soprano: "Ave Maria" (violin obbligato) (Mascheroni). Piano: "Hungarian Dance" (De Chaneet).
- 8.45 p.m.: The Jubilee Choristers, in a specially selected programme.
- 9 p.m.: Austral Quartette. Trio: "Trio, C Major, 1st Movement" (Hady). Violin, "Bolero" (Bohm). "Chanson Bretonne" (Chaminade).
- 9.10 p.m.: The Jubilee Choristers, in a specially selected programme.
- 9.25 p.m.: Austral Quartette. Piano: "Impromptu, A Flat" (Schubert). Soprano: "Homing" (with string accompaniment). Trio: Selections, "Gipsy Love" (Lehar).
- 9.50 p.m.: "Age" news service, exclusive to 3AR.
- 9.58 p.m.: Weather forecast.
- 9.59: Our Australian good-night quote.
- 10.30 p.m.: God Save the King.

4QG, BRISBANE

Sunday, December 9

MORNING SESSION

- 11.0 a.m.: From Albert St. Methodist church, morning service. 12.15 p.m.: Close down.

AFTERNOON SESSION

- 2.15 p.m.: From the Danish Church, prelude, opening prayer; hymn (Kirke og Hjem), 411; the Collect (second Sunday in Advent); the Epistle; hymn 409; the Gospel; the Creed; solo, 373; sermon, hymn 521; the Collect for the Word; Benediction; hymn 419; closing prayer; P. C. Lingard, Pastor. 3.15 p.m.: From the Botanic Gardens, Federal Band concert. 4.30 p.m.: Close down.

EARLY EVENING SESSION

- 6.30 p.m.: From the Studio.
- NIGHT SESSION
- 7.0 p.m.: From Albert St. Methodist Church—Children's service.
- 7.30 p.m.: Evening service. Municipal Band Concert. At the conclusion of the church service the concert by the Brisbane Municipal Concert Band (conductor, Mr. E. Jackson) will be relayed from Wickham Park. 9.30 p.m.: Close down.

5CL, ADELAIDE

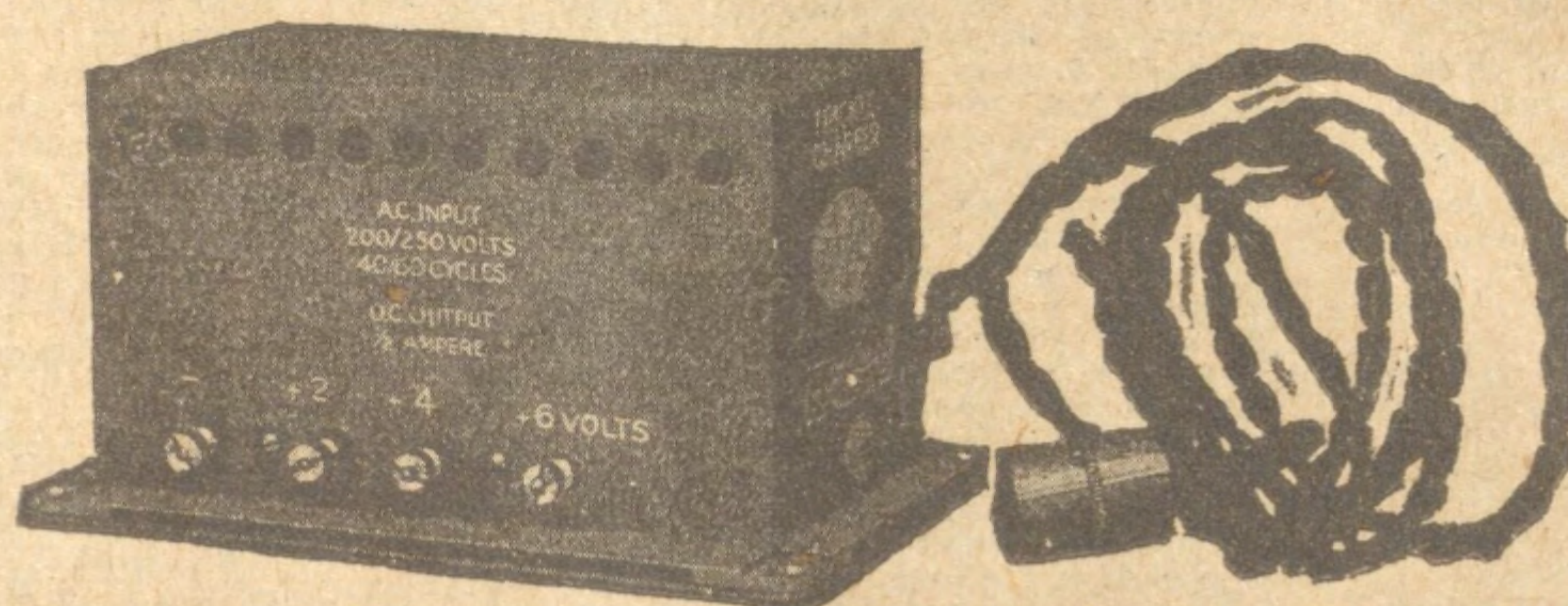
Sunday, December 9

MORNING SESSION

Announcer: J. L. Norris.

- 10.45 a.m.: Peal of bells from Adelaide Town Hall. 11.0 a.m.: G.P.O. chimes. 11.1 p.m.: Divine Service, relayed from Archer Street Methodist Church.—Doxology; Invocation, Lord's Prayer (chanted); Hymn 904, "Christ Whose Glory Fills the Skies"; lesson; male quartet, "Along the River of Time"; notices and collection; Anthem, "Evening and Morning"; Children's Address; Children's Hymn, 883.

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"Lord in the Fulness of My Might"; prayer; Hymn 410, "Dear Lord and Father of Mankind"; Sermon, Rev. Calver Barber, M.A., of Victoria; Hymn 679, "The Church's One Foundation"; Benediction. 12.15 p.m.: British official wireless news. 12.20 p.m.: Close down.

AFTERNOON SESSION

Announcer: J. L. Norris.

3.0 p.m.: G.P.O. chimes. Afternoon service relayed from Archer Street Methodist Church. 3.1 p.m.: Hymn 455, "Onward Christian Soldiers"; prayer; solo, Miss Stella Sobels; lesson; solo, Miss Rita Watson; offering; solo, Miss Stella Sobels; anthem, "How Lovely Are the Messengers"; hymn 462, "Stand Up, Stand Up, for Jesus"; address, Rev. Calvert Barber, M.A.; solo, Miss Rita Watson; hymn 948, "Oh, Lord of Heaven and Earth and Sea"; Benediction. 4.0 p.m.: G.P.O. chimes and close down.

NIGHT SESSION

Announcer: J. L. Norris.

6.0 p.m.: G.P.O. chimes.
6.1 p.m.: S.A. Railways information.
6.2 p.m.: Sunday smiles for little folk, by Auntie "Peggy."
6.25 p.m.: The bells from belfry of Adelaide Town Hall.
6.35 p.m.: The Bird Lady, in an interlude of story and music for young and old.
7.0 p.m.: G.P.O. chimes.
7.1 p.m.: A religious service relayed from St. Bartholomew's Church, Norwood—Evening Prayer, Psalms II. and 67. Lessons. Isaiah II. 1 to 9. Revelation, 20 and 21. Hymns 47, 222, 282, and 52. Preacher, Archdeacon Moyes.
8.25 p.m.: From the studio, "A Musical Feast on the Sonora, 'I Pagliacci.'" "Pagliacci," which means "The Players," is an opera in two acts, the music and text being by Leoncavallo. It was first performed at Milan on the 7th May, 1892, and principal characters are as follows:—Canio (a Pagliaccio in the play)—tenor. Nedda (Columbine in the play)—soprano. Tonio (the clown in the play)—baritone. Beppe (Harlequin in the play)—tenor. Silvio (a villager, Nedda's lover)—baritone.
9.45 p.m.: Finale; P. H. Nichols, talk on "The day after to-morrow."
9.59 p.m.: Meteorological information.
10.0 p.m.: G.P.O. chimes.
10.1 p.m.: Our Good-night Thought—"Society cannot do without cultivated men."

As soon as the first wants are satisfied
The higher wants become imperative."
—Emerson.

God Save the King.

6WF, PERTH

Sunday, December 9

10.25 a.m.: Tune in. 10.30 a.m.: Special half-hour for the enthusiastic listeners.
11 a.m.: Morning service relayed from Wesley Church, Perth. 12.15 p.m.: Close down. 3.20 p.m.: Tune in. 3.25 p.m.: Music and song. Musical programme from the studio, including vocal and instrumental artists. 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 wave-length. 7.5 p.m.: Children's bed-time stories by Mr. Robert Edmondson. 7.30 p.m.: Evening service relayed from Seventh Day Adventist Church, Hay St., Subiaco. 8.45: A relay. 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 9

MORNING SESSION.

Announcer: J. M. Counsel.

11.0 a.m.: Transmission from Memorial Congregational Church, Brisbane Street, Hobart. Hymn No. 407 "Dear Lord and

Father," Hymn No. 720 "Once in Royal David's City," Scripture Psalm 51 St. John 15, Hymn No. 156 "Strong Son of God," Sermon "Worship and Work" (preacher, Rev. Arthur C. Nelson). Hymn No. 513 "Go Labor On." 12.30 p.m.: Close down.

AFTERNOON SESSION.

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.

6.15 p.m.: Chorus singing (conductor, Trevor M. Morris, of Children's Special Service Mission). 6.45 p.m.: Bertha Southey Brammall will read a poem to the children, "3LO Calling," written one wild and wintry night in a hut on Bruny Island, after listening to 3LO Melbourne. 6.55 p.m.: M'elie Columbia broadcasts.

SUNDAY EVENING SESSION.

Announcer: J. M. Counsel.

7.0 p.m.: Transmission from Chalmers Church, Bathurst Street, Hobart, Sunday School Anniversary, preacher Rev. Jas. Crookston, hymns from the Banner Anniversary Hymn Book No. 1, Introit, Invocation, Hymn No. 11 "Fling Wide the Gates." Lesson, Hymn No. 10 "The Shepherd Kind and True," Prayer and Lord's Prayer (chanted), Hymn No. 9 "All Thy Words Shall Praise Thee," Intimations, Offertory, Hymn No. 2 "Thine I Am," address by Rev. Jas. Crookston, Hymn No. 13 "Be a Loyal Soldier," Benediction, Vesper. 8.25 p.m.: 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. 9.50 p.m.: Our Tasmanian good-night thought. God Save the King. Close down.

Monday, December 10

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.
7.5 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: 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 a.m.: "Big Ben"; A.P.A. and Reuter's Cable Services.
11.5 a.m.: Close down.

MIDDAY 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.: A Reading.
12.30 p.m.: Studio music.
12.45 p.m.: Cricket scores, England v. Combined Country, played at Warwick.
12.48 p.m.: Studio music.
1 p.m.: "Big Ben"; weather intelligence.
1.3 p.m.: "Evening News" midday news service; Producers' Distributing Society's report.
1.20 p.m.: Studio music.
1.28 p.m.: Stock Exchange, second call.

1.30 p.m.: Popular studio music.
1.57 p.m.: Cricket scores.
2 p.m.: "Big Ben" close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

2.30 p.m.: Programme announcements.
2.32 p.m.: Educational Session for the schools.
2.45 p.m.: Dorothy Vautier, "Legends of old Japan."
3 p.m.: "Big Ben"; pianoforte reproduction.
3.15 p.m.: Popular music.
3.30 p.m.: Colin Ferret, basso.
(a) "She alone charmeth my sadness" (Gounod).
(b) "The Roadside Fire" (Vaughan Williams).
3.37 p.m.: Hilda Nelson, mezzo.
3.44 p.m.: Cricket scores, England v. Combined Country, played at Warwick.
3.45 p.m.: "Tea Cups Chatter," by Doreen Walsh.
4 p.m.: "Big Ben"; from the Wentworth. The Wentworth Cafe Dance Orchestra, under the direction of Mr. Jimmy Elkins.
4.15 p.m.: Colin Ferret, Basso.
(a) "The Arrow and the Song" (Gounod).
(b) "The Jolly Miller" (Quilter).
4.22 p.m.: Popular music.
4.30 p.m.: Cricket scores.
4.32 p.m.: Hilda Nelson, Mezzo.
4.37 p.m.: From the Wentworth. The Wentworth Cafe Dance Orchestra, under the direction of Mr. Jimmy Elkins.
4.45 p.m.: Stock Exchange, third call.
4.47 p.m.: Studio music.
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"; 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 p.m.: "Big Ben"; late news service.
7.10: The 2FC Dinner Quartet, conducted by Mr. Horace Keats.
(a) "Czardas" (Monti).
(b) "Brown Eyes I Love" (Coates).
(c) "Ballet Egyptian" (Luigini).
(d) "Just Like a Melody" (Donaldson).
(e) "Au Bord d'un Ruissiau" (Boisdeffre).
(f) "Lonesome in the Moonlight" (Baer).

EVENING SESSION.

Announcer: A. S. Cochrane.

Accompanist: Ewart Chapple.

7.40 p.m.: Programme announcements.
7.45 p.m.: Pianoforte reproduction.
7.50 p.m.: Cricket scores, England v. Combined Country, played at Warwick.
7.52 p.m.: Popular music.
8 p.m.: "Big Ben" and announcements.
Light Music Quintet.
(a) "Monsieur Beaucaire" (Messenger).
(b) "Standchen" (Czibulka).
8.15 p.m.: Kathleen O'Connor, Mezzo.
(a) "Arietta" (Frescobaldi).
(b) "Tout gai" (Ravel).
8.22 p.m.: Ad Cree, Scottish Comedian.
8.29 p.m.: Trio de Paris.
The Parisians introduce themselves—
(a) Violin solo, "Serenade" (Toselli).
(b) Song "Elegie" (Massenet).
(c) Vocal, Piano Novelty and Violin, "Just like a Melody" (Donaldson).
(d) Violin solo, "Romanza Andalusia" (Sarasate).
8.44 p.m.: Nance Marley, Contralto.
(a) "Ships that Pass in the Night" (Stephenson).
(b) "The Lover's Curse" (Arr. Hughes).
8.51 p.m.: Light Music Quintet.
(a) "Extract from Symphony Pathétique" (Tchaikovsky).
(b) Suite, "Russet and Gold" (Sander-son).
9.6 p.m.: Weather report and forecast.
Tales re-told, C. H. Bertie.
9.21 p.m.: Kathleen O'Connor, Mezzo.
(a) "Long Ago" (MacDowell).
(b) "I know where I'm goin'." (Arr. Hughes).
9.28 p.m.: Trio de Paris.
Speaking of Superstition.
(a) Violin, "The Round of the Goblins" (Bazzini).
(b) Song, "At Night" (Rachmaninoff).
(c) Piano, "Fantasie on Rimsky Korsakoff airs" (Belaieff).
(d) Final, "Paree" (Padilla).
9.43 p.m.: Ad Cree, Scottish Comedian.
9.50 p.m.: Light Music Quintet.
(a) "Three Dances, Robin Hood" (Bunning).
(b) "King Stephen Overtures" (Beethoven).

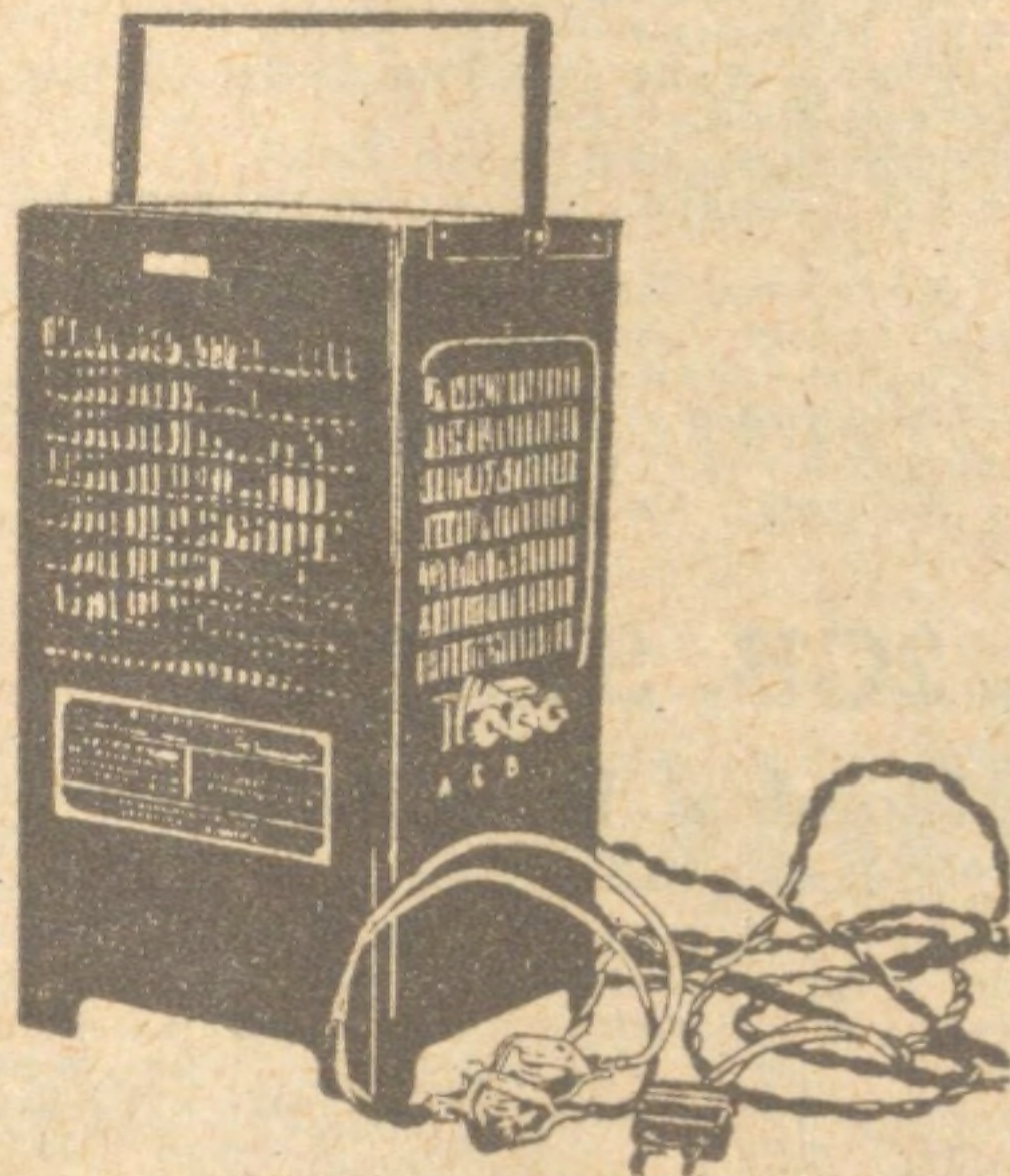
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This efficient-looking Charger is produced to supply the needs of those who require to charge more than 2 or 3 cells, and at a higher rate. With this unit 1 to 4 cells may be charged at either 3 or 6 amps., and 5 to 7 cells at 3 amps.



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SYDNEY

10.5 p.m.: Nance Marley, Contralto.
(a) "The Carpet" (Sanderson).
(b) "My Ships" (Barratt).
10.12 p.m.: Trio de Paris.
10.27 p.m.: To-morrow's programme.
10.30 p.m.: National Anthem; close.

2BL SERVICE

Monday, December 10

MORNING SESSION.

Announcer: A. C. C. Stevens.

8 a.m.: G.P.O. clock and chimes.
Metropolitan weather report.
8.1: State weather report.
8.2: Studio music.
8.15: G.P.O. clock and chimes.
News service from the "Daily Telegraph Pictorial".
8.25: Studio music.
8.30: G.P.O. clock and chimes.
Studio music.
8.35: Information; mails; shipping; arrivals; departures and sailings.
8.38: News service from the "Daily Telegraph Pictorial".
8.45: G.P.O. clock and chimes.
Studio music.
9.0: G.P.O. clock and chimes.
Studio music.
9.30: Half an hour with silent friends.
10.0: 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: Advertising hints.
11.40: Women's session, conducted by Mr. Cranfield.
12.0 noon: G.P.O. clock and chimes.
Special ocean forecast and weather report.
12.3: Studio music.
12.30: Shipping and mails.
12.35: Market reports.
12.45: Cricket scores, England v. Combined Country, played at Warwick.
12.48: "Sun" midday news service.
1.0: Studio music.
1.30: Talk to children and special entertainment for children in hospital.
1.57: Cricket scores.
2.0: G.P.O. clock and chimes; close down.
Note.—Race results will be broadcast by courtesy of the "Sun" Newspapers.

AFTERNOON SESSION.

Announcer: Basil Kirke.

Accompanist: Kathleen Roe.

3.45 p.m.: G.P.O. clock and chimes.
Cricket scores; studio music.
3.50: Romano's Dance Orchestra, conducted by Bennie Abrahams.
4.0: Gwen Neate, in popular numbers.
4.8: Romano's Dance Orchestra, conducted by Bennie Abrahams.
4.18: Capt. Fred Aarons, "Hannibal, the Soldier."
4.33: Leslie Westbrook, tenor—
(a) "Here in the Quiet Hills" (Carne).
(b) "Requiem" (Homer).
4.40: "Sun" news service.
4.50: Romano's Dance Orchestra, conducted by Bennie Abrahams.
5.0: Muriel Lavender, soprano—
(a) "Buy My Roses" (Slater).
(b) "I love the Moon" (Rubens).
5.7: "Sun" news service.
5.17: Popular music.
5.37: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: J. Knight Barnett.

5.40 p.m.: Children's music and entertainment.
6.0: Children's letters and stories.
6.30: "Sun" news and late sporting.
6.40: 2BL Dinner Quartette—
(a) "You're a Real Sweetheart" (Friend).
(b) "A la Ballerina" (Bendix).
(c) "Bolero" (Fernandez-Arbo).
(d) "The Boy" (Talbot).
(e) "Abandonnee" (Franceschi).
(f) "Get out and get under the Moon" (Shay).
7.10: Cricket scores, England v. Combined Country, played at Warwick.
7.12: 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: Mr. Pim and Miss Pam in advertising talks and nonsense.
7.55: Programme and other announcements.

EVENING SESSION.

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

8 p.m.: G.P.O. clock and chimes.
2BL Topical Chorus.
8.3: From King's Cross Theatre—
The King's Cross Theatre Orchestra, under the direction of E. J. Roberts.
8.20: From the Studio—
"Teh Two Tonics," entertainers.
8.30: Foster and Finlay, instrumentalists.
8.40: Poppy Plant and Peg Page, in popular melodies.
8.50: Reg and Daph, the Radio Riots, in snappy sketches.
9.0: G.P.O. clock and chimes.
Weather reports.
9.2: Cecil Chaseling, baritone.
9.9: The Savoyans Dance Band.
"The Two Tonics," entertainers.
9.30: Foster and Finlay, instrumentalists.
9.40: Reg and Daph, the Radio Riots, in snappy sketches.
9.55: Cecil Chaseling, baritone.
9.9: The Savoyans Dance Band.
10.15: Poppy Plant and Peg Page, in popular melodies.
10.25: The Savoyans Dance Band.
10.35: Art Leonard, in the newest song hits.
10.52: Late weather report; Art Leonard, in the newest song hits.
11.0: The Savoyans Dance Band.
11.27: Resume of following day's programme.
11.30: National Anthem.

2GB, SYDNEY

Monday, December 10

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.: Mayo Hunter and Gladys. 8.12 p.m.: Songs by Miss Gwytha Harbroo. 8.22 p.m.: Items by the Newtown Band, conductor, Mr. C. Bignall. 8.50 p.m.: Mayo Hunter and Gladys. 9.0 p.m.: Weather report and address. 9.15 p.m.: Songs by Miss Gwytha Harbroo. 9.25 p.m.: Items by the Newtown Band. 10.10 p.m.: Orchestral music. 10.30 p.m.: Close down.

2UW, SYDNEY

Monday, December 10

MIDDAY SESSION.

12.30 p.m.: To-day's anniversary. 12.32: Music. 1.0: G.P.O. clock and chimes. 1.1: Music. 2.0: Talks to women. 2.15: "Cheerio talk." 2.30: Close down. 4.30: Musical programme.

EVENING SESSION.

5.30 p.m.: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. 7.1: Music. 7.10: News item. 7.30: Musical interlude. 7.35: Psychology Talk. 8.0: G.P.O. clock and chimes. 8.1: Music. 9.0: G.P.O. clock and chimes. 9.1: Comments on foreign affairs, by Mr. J. M. Prentice. 9.10: Music and request numbers. 10.0: Close down.

3LO, MELBOURNE

Monday, December 10

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 a.m.: Melbourne Observatory time signal. 8.1 a.m.: Morning melodies. 8.15 a.m.: Close down.

MORNING SESSION.

Announcer: Maurice Dudley.

11 a.m.: 3LO's different dainties for the daily dinner. 11.15 a.m.: Miss Olga Parker: Stories to tell the children—

"Xmas Stories and Legends." 11.20 a.m.: Musical interlude. 11.25 a.m.: Mrs. Clarence Weber, physical culture expert, will speak on "Camping." 11.40 a.m.: Musical interlude. 11.45 a.m.: Under the auspices of the Safety Council, W. L. Miller will speak on "Safety at Christmas."

MIDDAY SESSION.

12 noon: Melbourne Observatory time signal express train information. 12.1 p.m.: British official wireless news from Rugby; Reuters 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 Assembly Hall, Collins Street, Melbourne. Conductor: G. J. Mackay. The Gypsy Players: Ella Walker, mezzo-contralto. "The Next Market Day" (Hughes). "I Know Where I'm Going" (Hughes). Ray Carey, tenor. "Charming Chloe" (German). "My Little Banjo" (Dichmont). 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 p.m.: Close down.

AFTERNOON SESSION.

Announcer: Maurice Dudley.

Accompanist: Agnes Fortune.

2.15 p.m.: The Strad Trio (Cecil Parkes, violin; May Broderick, piano; and Frank Johnstone, cello). "Trio, Op. 11, in B flat" (Beethoven). Allegro con brio; Adagio; Allegretto and variations. 2.34 p.m.: Ida Walker, mezzo-contralto—"Evening Song" (Schumann). "The Jesamine" (Schumann). 2.41 p.m.: Cecil Parkes, violin—"Romance in G" (Beethoven). "Turkish March" (Beethoven). 2.50 p.m.: Ida Walker, mezzo-contralto—"Songs My Mother Taught Me" (Dvorak). "Love I Have Won You" (Ronald). 2.57 p.m.: May Broderick, piano—"Etude in E Major" (Chopin). "Etude—Revolutionary" (Chopin). 3.3 p.m.: The Strad Trio—"Serenade" (Wider). "Guitar Player" (Schytte). "Swedish Folk Song" (Svendson). "Marche Militaire" (Chopin). 3.13 p.m.: "A Queen's Messenger," by J. Hartley Manners. Cast: An English officer, Eric Donald; a masked lady, Louise Moorhead. 3.28 p.m.: The Station orchestra—"Adoration" (Borowski). "Berceuse" (Danbe). 3.38 p.m.: James Riley, tenor—"Parted" (Tosti). "The Star" (Rogers). 3.49 p.m.: The Station orchestra—"Poeme" (Drdla). "Canzone Triste" (Conte). 3.59 p.m.: E. Mason Wood, baritone—"Onaway, Awake Beloved" (Cowen). "Do You Remember" (Godard). 4.2 p.m.: Tasma Tiernan, cello—"Serenade Espagnole" (Glazounow). 4.9 p.m.: May Jones, contralto—"Through the Sunny Garden" (Quilter). "The Valley and the Hill" (Quilter). 4.16 p.m.: The Station orchestra—"Les Adieux" (Sarasate). "Extase" (Ganne). 4.23 p.m.: James Riley, tenor—"I Pitch My Lonely Caravan" (Coates). "I Heard You Singing" (Coates). 4.30 p.m.: The Station orchestra—"Scherzo" (Mendelssohn). "Serenata" (Tarenghi). 4.37 p.m.: E. Mason Wood, baritone—"The Fortune Hunter" (Squire). "The Vulcan's Song" (Schubert). 4.44 p.m.: The Station orchestra—"Prelude" (Saint-Saens). "Two Sketches" (Frommel). 4.51 p.m.: May Jones, contralto—"Song of the Little Folk" (Coates). "Faery Song" (Boughton). News Session:—5 p.m.: "Herald" news service; Stock Exchange information. 5.10 p.m.: Acceptances for the Kyneton races, to be held on Wednesday. 5.15 p.m.: Close down.

EVENING SESSION.

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 will tell another of his famous stories—"Pirates of the Past." 6.50 p.m.: "Billy Bunny" will tell another story in his own familiar fashion.

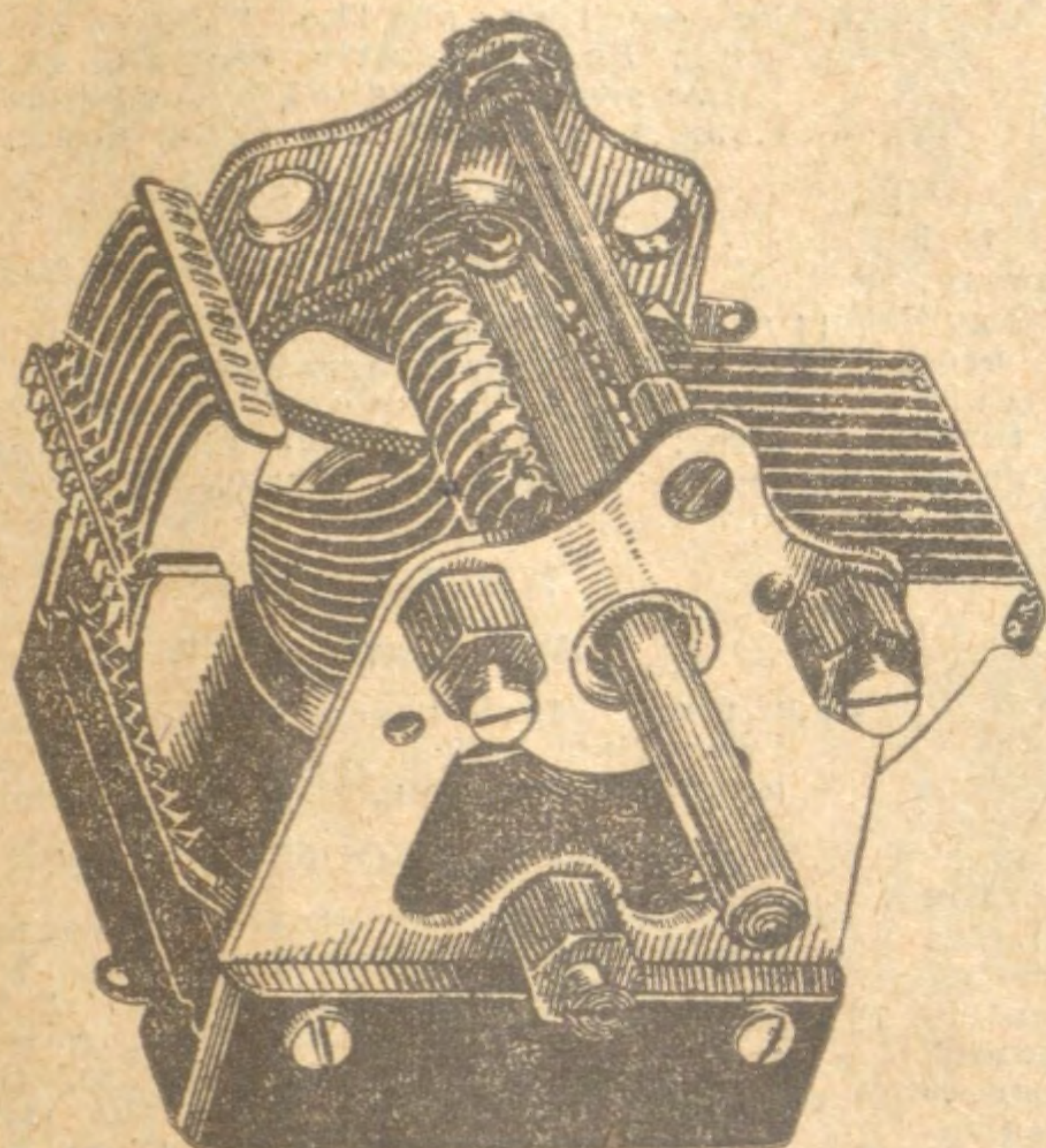
NIGHT SESSION.

Announcer: 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 Street, Melbourne. 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

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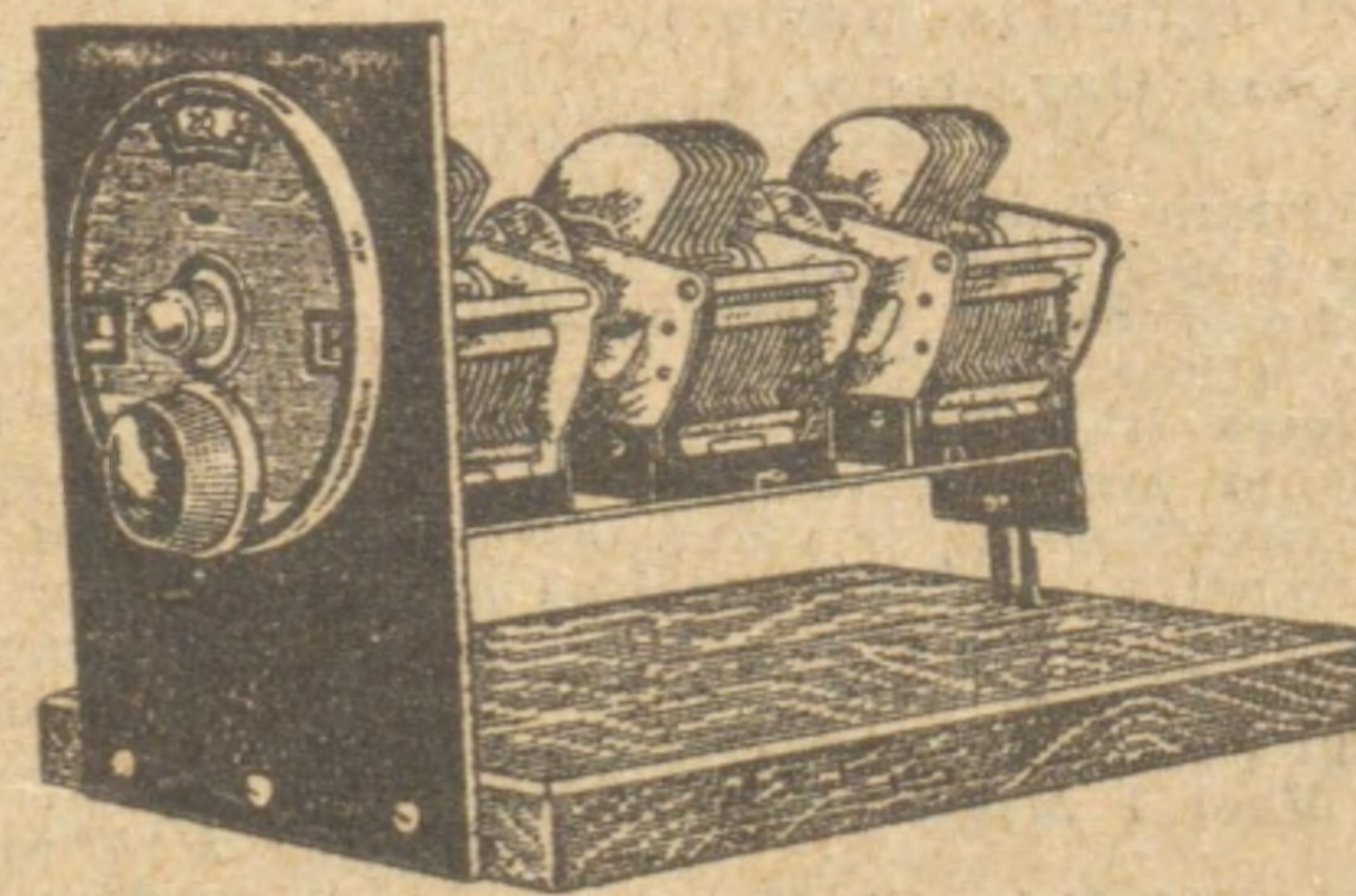


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MELBOURNE

reports of fruit by the Victorian Fruit-ers' 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.

7.45 p.m.: Out of the Past.

7.46 p.m.: Under the auspices of the Department of Agriculture, F. De Castella, viticulturist will speak on "Viticulture—Seasonable Hints."

8 p.m.: A Maker of History.

8.1 p.m.: "The Desert Song," by permission J. C. Williamson, Ltd. Music by Sigmund Romberg. Book by Otto Harbach, Oscar Hammerstein 2nd, and Frank Mandell. Produced by George A. Highland.

CAST:

Sir 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.
Captain Paul Fontaine: Reginald Dandy.
Azuri: Stephanie Deste.
Lieutenant La Vergne (first appearance): Ronald Pomeroy.
Lieutenant Du Bassac: Owen Trappes.
Margot Bonvalet (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.
Clementina (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.

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.

9.20 p.m.: The Station orchestra: "Hiawatha Suite" (Coleridge-Taylor).

9.30 p.m.: James Hay, tenor. Selected.

9.37 p.m.: William Tainsh will give a selection from Longfellow's "Hiawatha."

9.52 p.m.: The Station orchestra—"Suite Minnehaha" (Coleridge-Taylor).

10.2 p.m.: James Hay, tenor. Selections from his repertoire.

10.9 p.m.: "Argus" news service; meteorological information; British wireless news from Rugby; announcements.

10.19 p.m.: The Station orchestra—Selection, "The Gipsy Princess" (Kalman). "I Kind of Feel I Am in Love" (Christina).

"He's a Very Old Friend" (Rogers).

10.26 p.m.: Rita Hilton, soubrette.

10.32 p.m.: The Station orchestra—Selections, "The Island King" (Garstin).

10.42 p.m.: Rita Hilton, soubrette—Request numbers.

10.50 p.m.: Our Great Thought.

10.51 p.m.: The Radi-o-Aces, transmitting from R.M.S. Orford.

10.51 p.m.: The Radi-o-Aces—

"Sally Rose" (Friend).

"Sincerity I Do" (Davis).

"You Can't be Good Little Fellow" (Stanley).

"Sleepy Baby" (Kahn).

"Get Out and Get Under the Moon" (Tobias).

"That's My Weakness Now" (Stept).

"Tiger Rag" (Moore).

"Jeannine" (Gilbert).

"Dream House" (Foxe).

"Brainstorm" (Saunders).

"Golden Gate" (Woods).

"After My Laughter Came Tears" (Turk).

"Without You Sweetheart" (Henderson).

Slumber music: "Goodnight Waltz" (Bibo).

"Goodnight Chorus."

11.40 p.m.: God Save the King.

3AR, MELBOURNE

Monday, December 10

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: John Stuart.

Accompanist: Reg. Brown.

11 a.m.: Radi-o-Aces. "Dream House" (Fox), "Jeannine" (Gilbert), "Got a Big Date" (Tobias), "Sunshine" (Berlin), "A Stolen Melody" (Fisher), "Lauretta" (Lewis). 11.30 a.m.: Rita Hilton, entertainer: "He's Tall, Dark, and Handsome" (Tobias), "There's Something Spanish in My Eyes" (Caesar). 11.37 a.m.: Radi-o-Aces, "Adoree" (Silver), "Dear on a Night Like This" (Conrad), "Never Before, Never Again" (Chik), "Laugh, Clown, Laugh" (Young), "There's Something About a Rose" (Kahal), "Love Me" (Wilson). 12 noon: Vera Thomson, soprano, "O Lovely Night" (Landon Ronald), "Little Lady of the Moon" (Coates). 12.7 p.m.: Radi-o-Aces, "Fascinating Vamp" (Nussbaum), "That's My Weakness Now" (Stept), "Get Out and Get Under the Moon" (Tobias), "What a Baby" (Whitting), "Somebody's Crazy About You" (Johnson), "What Do I Care What Somebody Said" (Woods). 12.27 p.m.: British official wireless; announcements. 12.27 p.m.: Rita Hilton, entertainer, "Back in Your Old Backyard" (Jolson), "Get Out and Get Under the Moon." 12.44 p.m.: Radi-o-Aces, "Just a Memory" (Henderson), "Lonesome in the Moonlight" (Baer), "Angelia Mia" (Rappee), "Kiss Before the Dawn" (Parkin), "Parting With You" (Conly), "Chloe" (Kahn). 1.4 p.m.: Vera Thomson, soprano, "Coppelia Waltz" (Delibes), "Sunday" (Molly Carew). 1.11 p.m.: Radi-o-Aces, "Lonely in a Crowd" (Greer), "Louisiana" (Schafer), "Nesting Time" (Nussbaum), "Just a Year Ago To-night" (Rose), "Because My Baby Don't Mean Maybe Now" (Donaldson), "Just Like a Melody Out of the Sky" (Donaldson). 1.30 p.m.: Close down.

EVENING SESSION.

Announcer: Frank Hatherley.

6 p.m.: A recital of old masters.

NIGHT SESSION.

Announcer: Frank Hatherley.

7.55 p.m.: Cricket results, England v. Combined Country, at Warwick; results of Fitzroy races.

8 p.m.: Welsh Delegation Australian vocal championship, transmitted from the Melbourne Town Hall. Accompanist: W. G. James.

8.1 p.m.: Chorus by the Regent Lyric Choir.

8.15 p.m.: Solos by Champion of Victoria, Eric Jones; Champion of Tasmania, Miss Lila Harvey; Champion of South Australia, Arnold Matters; Champion of West Australia, Miss Irene Stancliffe; Champion of Queensland; Champion of New South Wales.

10.12 p.m.: Chorus by the Regent Lyric Choir.

10.22 p.m.: Adjudicator's decision and remarks.

10.30 p.m.: Presentation to Australian champion.

10.40 p.m.: Welsh National Anthem.

10.45 p.m.: From the studio, "Age" news service, exclusive to 3AR.

10.58 p.m.: Weather forecast.

10.59 p.m.: Our Australian good-night quote.

11 p.m.: God Save the King.

4QG, BRISBANE

Monday, December 10

EARLY MORNING SESSION.

Announcer: J. Tyson.

7.45 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 information. 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 studio, a programme of electrically reproduced records. 3.30 p.m.: Mail train running times. 3.31 p.m.: From St. John's Cathedral, a recital by Mr. George Sampson, F.R.C.O. (City Organist). 4.0 p.m.: From the studio, afternoon news. 4.30 p.m.: Close down.

EARLY EVENING SESSION.

Announcers: R. Wight and H. Humphreys.

6.0 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." 7.0 p.m.: News in brief; 7.5 p.m.: Stock Exchange news. 7.6 p.m.: Metal quotations. 7.7 p.m.: Market reports. 7.25 p.m.: Fenwick's stock report. 7.30 p.m.: Weather information. 7.40 p.m.: Announcements. 7.43 p.m.: Standard time signals. 7.45 p.m.: Lecturette: "Summer Crops for Pigs" by Mr. E. J. Shelton (Instructor in Pig Raising).

NIGHT SESSION.

PART I.

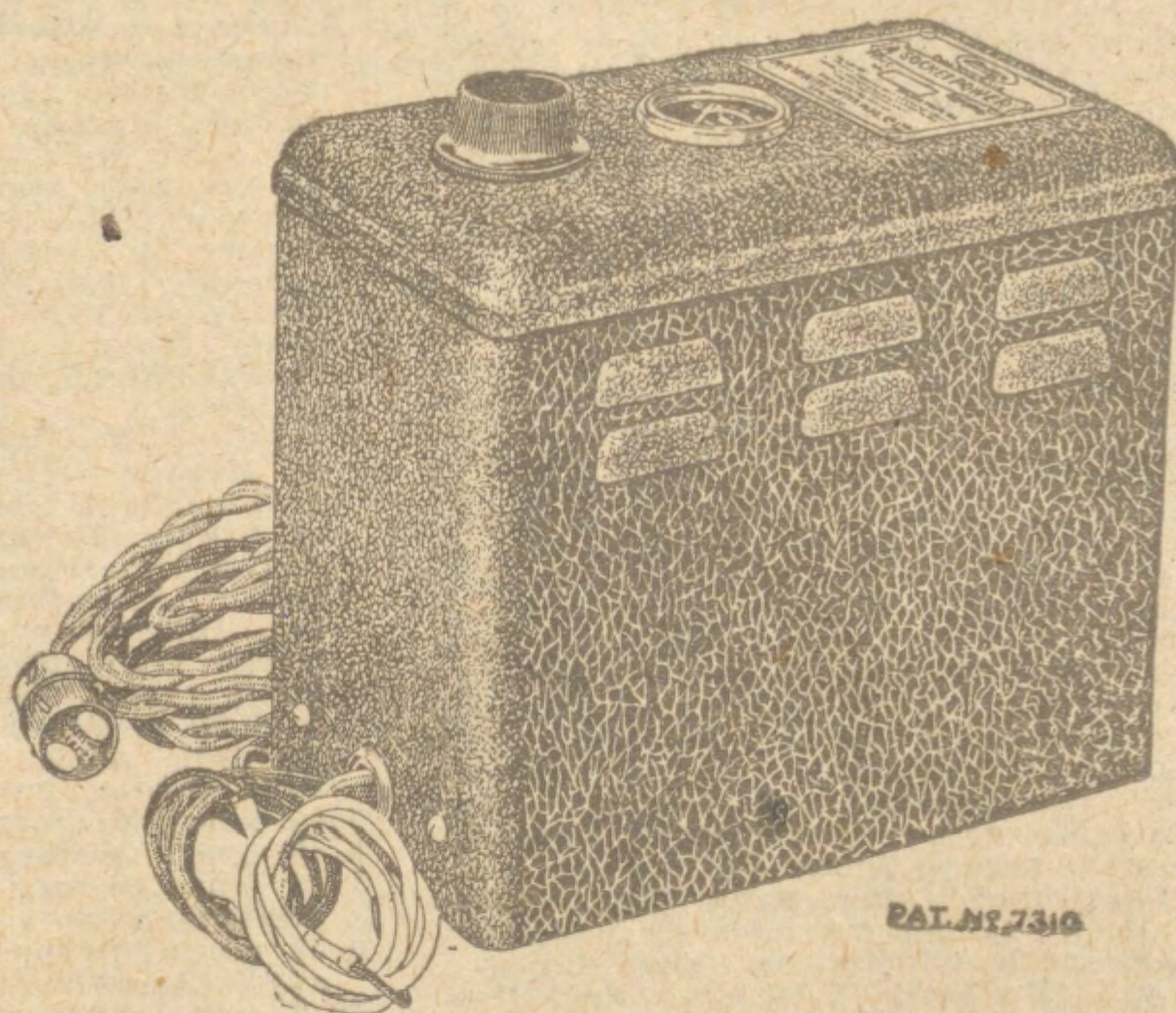
8.0 p.m.—From Clarence Corner, address by the chairman, Mr. M. J. Fogarty.
8.3 p.m.: Address by the Mayor, Ald. W. A. Jolly, C.M.G.
8.10 p.m.: Address by the Speaker, Mr. W. Bertram.
8.13 p.m.: Address by Mr. Reg. King, M.L.A.
8.16 p.m.: Address by Mr. Hansen.
8.19: Address by Ald. Laurie.
8.25 p.m.: Address by Ald. Luckins.
8.29 p.m.: Quarter of an hour's music by the South Brisbane Band.
8.45 p.m.: Quarter of an hour's music by the South Brisbane Jazz Orchestra.

PART II.

9.0 p.m.: From the studio—A recital by Gladys Frost (pianiste) and Lena Hammond (contralto).
Gladys Frost (pianiste)—
"Polonaise in E" (Chopin)
"Study in A Flat" (Chopin)
"Butterfly Study" (Chopin).
Lena Hammond (contralto)—
Italian Group:
"Te Nel ben sempe incostane" (Stradella)
"O Bacca Dolorosa" (Sibella)
"Sognal" (Tchira).
Gladys Frost (pianiste), in honor of the Schubert Centenary—
"Moments Musicales in A Flat" (Schubert).
"Moments Musicales in A Minor" (Schubert).
"Trio from 'A Minor Sonata'" (Schubert).
"Scherzo from 'A Minor Sonata'" (Schubert).
Lena Hammond (contralto)—Group of Negro Spirituals by request—
"Nobody Knows de Trouble I've seen" (arr. Burleigh)
"Oh, Didn't It Rain" (arr. Burleigh)
"Were You There" (arr. Burleigh)
"I Got a Robe."
Gladys Frost (pianiste)—
"Arietta" (Greig).
"Waltzer" (Greig)
"The Watchman's Song" (Greig)
"Spring Dance" (Greig)
"Norwegian Song" (Greig)
"Norwegian National Song" (Greig).

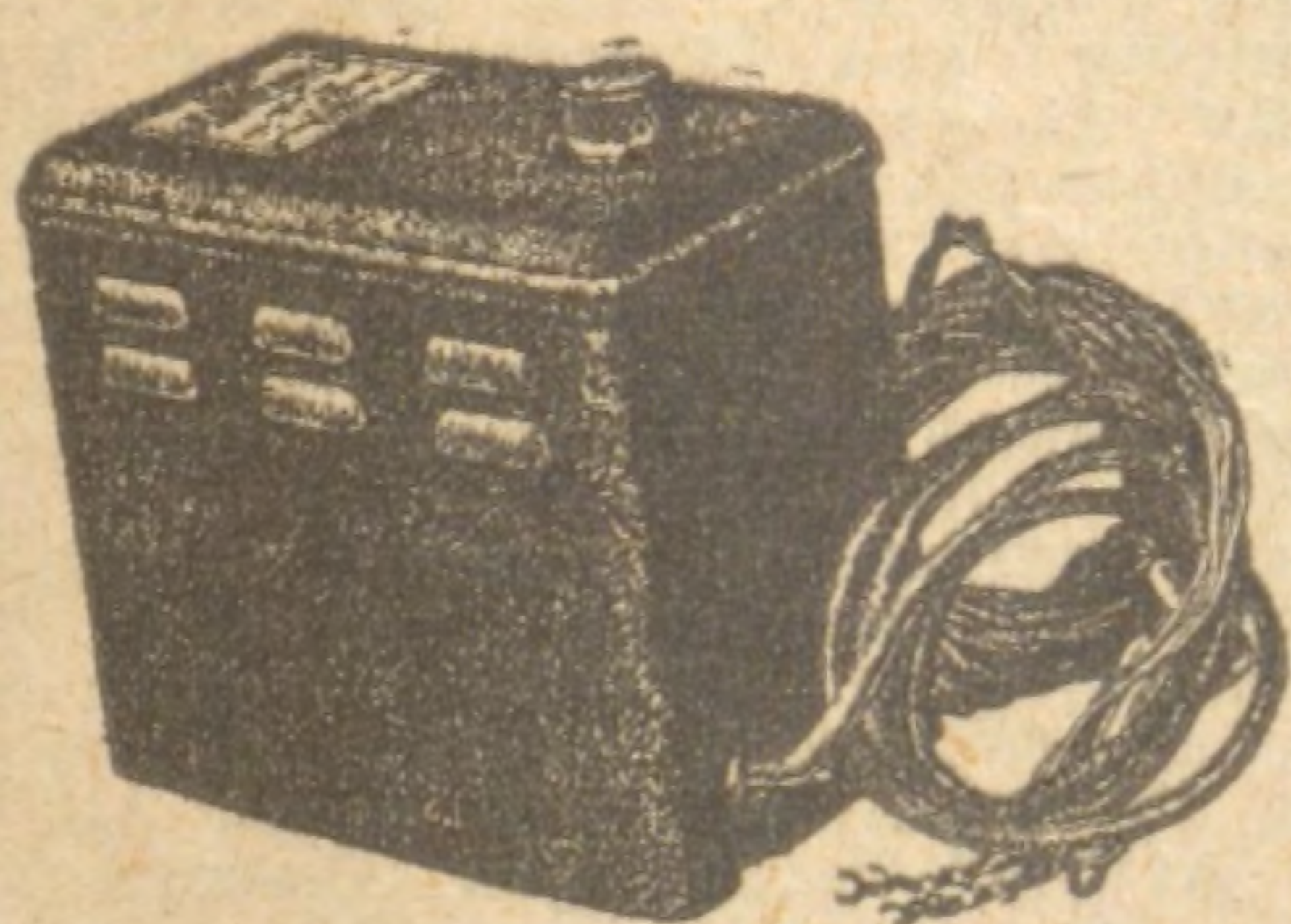
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MELBOURNE

Lena Hammond (contralto)—Irish ballads—
 "Bantry Bay" (Molloy)
 "The Kerry Dance" (Molloy)
 "Sea Wrack" (Harty).
THE CITIZEN'S BAND.
 10.0 p.m.: From the studio—
 An impromptu programme by the Brisbane Citizens' Band (conductor, Mr. A. Kaeser).
 Between band items the following will be broadcast:—
 Muriel M. Hugh (soprano)—
 "The Bubble Song" (Shaw)
 "Birds in the Nest" (Choveaux).
 Will H. Lister—
 A Thought for To-night: "What Do You Read?"
 10.30 p.m.: "The Daily Mail" news, "The Courier" news, weather news. Close down.

5CL, ADELAIDE

Monday, December 10

MORNING SESSION

Announcer: J. L. Norris.

11.0 a.m.: G.P.O. chimes. 11.1 a.m.: Sonora recital, fifteen minutes with the Drayfair Orchestra. 11.15 a.m.: "Economist" kitchen craft and menu talk. 11.35 a.m.: Sonora recital, vocal and orchestral interlude by H.M.V. artists.

MID-DAY SESSION

12.0 noon: G.P.O. chimes. 12.1 p.m.: Vocal concert—Gerald Healy, tenor, "O, Paradiso Dell'onde Uscuto" (Mayerbeer); "When Song is Sweet" (San Souci). 12.6 p.m.: Pianoforte recital, by Tom King. 12.15 p.m.: The "Advertiser" general news service. 12.35 p.m.: British official wireless news. 12.43 p.m.: Gerald Healy, tenor, "For You" (Geehl), "Because" (D'Hardelot). 12.50 p.m.: S.A. railway information. 12.51 p.m.: S. C. Ward and Company's Stock Exchange information. 12.57 p.m.: Meteorological information. 1.0 p.m.: G.P.O. chimes. 1.1 p.m.: Mrs. Keith Steward, soprano, "Farewell to Summer" (Johnson), "There Is a Land" (Allitsen). 1.7 p.m.: Metronola Dance Band, fox-trot, "Side by Side" (Woods), Blues, "Chloe" (Moret), Blues, "Rain" (Ford). 1.17 p.m.: Syd. Morrell, baritone, "Trade Winds" (Keel), "Where My Caravan Has Rested" (Lohr). 1.23 p.m.: Metronola Dance Band, fox-trot, "The Vagabond" (Meyer), Blues, "South Wind" (Henderson). 1.30 p.m.: Mrs. Keith Steward, "Christina's Lament" (Dvorak), "Come Along Fairies" (Wood). 1.36: Metronola Dance Band, Blues, "Harvest Moon" (Norworth), fox-trot, "Shanghai Dream Man" (Davis), tango fox-trot, "Sarita" (Burton). 1.46 p.m.: Syd. Morrell, baritone, "When Childer Plays" (Davies), "Cheery Song" (Slater). 1.52: p.m.: Metronola Dance Band, Blues, "Breeze" (Hanley), fox-trot, "Barbara" (Silver), fox-trot, "Just a Memory" (Henderson). 1.58 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.: Regent Theatre Symphony Orchestra, symphonic and incidental music. 3.7 p.m.: Sydney Burchall, popular baritone, "The Ragged Vagabond" (Randolf), "King For a Day" (Fiorito). 3.13 p.m.: Regent Theatre attractions, Wurlitzer organ interlude. 3.19 p.m.: Interlude of humor, by Sydney Hollister. 3.29 p.m.: Harry Hutchins, violinist, "Scene de Ballet" (De Beriot). 3.35 p.m.: Mrs. Leslie Matthews, contralto, "Slave Song" (Del Riego), "The Silver Ring" (Chaminade). 3.38 p.m.: Regent Symphony Orchestra, symphonic selections. 3.45 p.m.: Sydney Burchall, popular baritone, "The Piper" (Steel), "All the Same" (Gideon). 3.51 p.m.: Harry Hutchins, violinist, "Twilight Dreams" (Manhire), "Seconde Romance" (Tours). 3.58 p.m.: Syd. Morrell, baritone, "The Ballad Monger" (Martin), "To Anthea" (Hatton). 4.5 p.m.: Regent Symphony Orchestra, music for all tastes. 4.15 p.m.: Mrs. Leslie Matthews, contralto, "Salaam" (Lang), "A Summer Night" (Thomas). 4.21 p.m.: Regent Symphony Orchestra, incidental music. 4.30 p.m.: Syd. Morrell, baritone, "The Sailor's Paradise" (Richards), "I Pitch My Lonely Caravan" (Coates). 4.36 p.m.: Regent Symphony Orchestra, music for all tastes. 4.45 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.: Children's Happy Moments, birthday greetings, correspondence, songs and stories, by "Miss Wireless." 6.30 p.m.: Sonora recital, dinner music by Jack Hylton and his orchestra. 7.0 p.m.: G.P.O. chimes. 7.1 p.m.: S. C. Ward and Co.'s Stock Exchange information. 7.6 p.m.: General market reports. 7.10 p.m.: Station announcements. 7.12 p.m.: Mr. W. J. Apps (Senior Dairy Instructor) will speak, under the auspices of the Government Agricultural Department, on "Clean Milk Production and its Importance in Dairying." 7.30 p.m.: The 5CL Twinkler Boys' Club, address by the "Twinkler."

NIGHT SESSION

Announcer: Athol Lykke.

8.0 p.m.: G.P.O. chimes. 8.1 p.m.: Station Orchestra, "Il Barbiere di Siviglia," an opera in two acts, by Rossini. The principal characters are:—Count Almaviva (tenor), Figaro, the Barber of Seville (baritone), Doctor Bartolo (baritone), Basilio, music teacher (bass), Rosina, a ward of Battolo (soprano). 8.10 p.m.: Marcella Berardi (soprano), in a scene from "Il Barbiere di Siviglia," "Una voce poco fa." 8.20 p.m.: "Faust" (Gounod), an opera in five acts. Principal characters: Faust (tenor), Mephistopheles (bass), Valentine (baritone), Marguerite (soprano), Siebel (mezzo-soprano), Martha (contralto), Fred Guster (basso), the "Calf of Gola" ballad; Station Orchestra, selection from "Faust"; the Church Scene, by the above artists and augmented chorus; Marcella Berardi, "The Jewel Song." Station Orchestra, selection from "Il Trovatore" (Verdi); Fred Guster, basso, in the part Ferrando, "Aletta Zingara"; Elsie Woolley, mezzo-soprano, as "Azucena," "Stride la Vampa." "Rigoletto" (opera in three acts, by Verdi). The principal characters—Duke of Mantua (tenor), Rigoletto, his jester, a hunchback (baritone), Gilda, daughter of Rigoletto (soprano), Maddalene, sister of the professional bully, Sporafulle (contralto), Sporafulle (bass), Count Monterone (baritone). Station Orchestra, selection from "Rigoletto" (Verdi). Herbert King, tenor, "Questa o Quella"; Marcella Berardi, soprano, "Caro Nome." Marcella Berardi, Elsie Woolley, Herbert King, Fred Guster, finish of Grand Opera. 9.45 p.m.: Meteorological information. 9.46 p.m.: Overseas grain report. 9.48 p.m.: Sydney Hollister, entertainer, in original humor. 9.58 p.m.: Station Orchestra, "Musical Jigsaw" (Jalowicz). 10.5 p.m.: Sydney Burchall, popular baritone, "The Barber of Tarin" (Weatherly), "Song Down Every Roadway" (Wood); "House at the End of the Lane" (Solomon). 10.15 p.m.: The "Advertiser" general news service. 10.25 p.m.: British official wireless news. 10.28 p.m.: Meteorological information. 10.29 p.m.: Our Good-night Thought—The heights by great men reached and kept, Were not attained by sudden flight, But they, while their companions slept, Were toiling upward in the night." 10.30 p.m.: On with the dance. By courtesy of 3LO, Melbourne, music by the famous Radi-o-Aces. 11.10 p.m.: God Save the King.

6WF, PERTH

Monday, December 10

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. 1.2 p.m.: Lunch-hour music. Brunswick Panatrophe hour relayed from Messrs. Musgrove's Limited Concert Hall, Perth. 2 p.m.: Close down. At intervals during the afternoon, results will be given of the cricket match between the English Eleven v. Combined Country, played at Warwick. 3.30 p.m.: Tune in. 3.35: Afternoon tea concert, relayed from the Carlton Cafe, Perth. Vocal and instrumental numbers 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 wavelength. 6.48 p.m.: Stories for the kiddies by Uncles Henry and Duffy. Uncle Henry

will talk to the boys. 7.5 p.m.: Items by the Studio Trio. 7.30 p.m.: Stocks, markets, news. 7.45 p.m.: Talk by Lieut. Colonel Le Souef, 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.: BAND NIGHT. Concert by the R.S.L. Band, conducted by Mr. Geo. S. Mellor. 9 p.m.: Late news items, by courtesy of the "Daily News" Newspaper Co.; ships within range announcement; weather report and forecast; station announcements. 10.30 p.m.: Close down.

104.5 METRE TRANSMISSION.

Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL, HOBART

Monday, December 10

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 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; 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.: is Masters' Voice, in moments merry and musical. 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.: His Master's Voice, in moments merry and musical. 3.4 p.m.: Weather information. 3.5 p.m.: His Master's Voice, in moments merry and musical. 3.15: A popular orchestral programme, by Monsieur Sonora, Paul Whiteman and His Orchestra, "The Merry Widow" (Lehar), "My Hero" (Strauss); Drury Lane Theatre Orchestra, "Rose Marie," parts 1 and 2 (Friml and Stothart); Paul Whiteman and His Orchestra, "Blue Nights" (arr. Robins and Mahoney), "Chiquita" (Gilbert and Wayne); Columbia Artists Ensemble, "Tis the Last Rose of Summer" (Moore), "Silver Threads Among the Gold" (Danks); Eddie Thomas's Collegians, "Till We Meet Again" (Whiting and Egan), "The Missouri Waltz" (Logan and Eppel); International Concert Orchestra, "Danube Waves" (Ivanovici), "Over the Waves" (Juventino Rosas); International Concert Orchestra, "The Skaters" (Waldteufel), "Estudiant" (Waldteufel); International Concert Orchestra, "Gipsy Love" (Lehar), "Sweetheart" (Strauss); Johann Strauss and Symphony Orchestra, "Artist's Waltz" (Kunstlerleben), "Tales from Vienna Woods" (Strauss). 4.15 p.m.: Fashion talk, "Aunt Edna" will speak on "Holiday Attire." 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 Sheila Carrol, elocutionist, will recite to the wee folk, recitation, "Selected." 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.: "Mercury" special Tasmanian news service; railway auction produce sales, held at railway; weather information; Hobart Stock Exchange quotations; announcements.

EVENING SESSION

Announcer: Jack Broadbent.

7.30 p.m.: Geo. Collis, Tasmania's champion wrestler, will speak on "How to Prepare for Swimming." 7.45 p.m.: Roger Doherty, secretary of Southern Tasmania 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." 8.6 p.m.: A concert by the Risdon Band and the Discus Ensemble. Jack Lumsdaine

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and Len Maurice, "Good Night" (Wood), "That's My Mammy" (Perse); Risdon E.Z. Band, march, "The Conqueror" (Moorhouse); Maria Kurenko, soprano, "Ye Who Have Yearned Alone" (Tschalkowsky), "Cradle Song" (Tschalkowsky); Risdon E.Z. Band, overture, "The Coquette" (Laurent); John M'Cormack, tenor, "Drink to Me Only" (Calcott), "Beneath the Moon of Lombardy" (Craxton); Risdon E.Z. Band, cornet duet, Messrs. R. Sutcliffe and V. Shelton, "Forest Warriors" (band accompaniment) (Rimmer); Charles W. Hamp, tenor, "Dream House" (Cowan), "Masquerade" (Hamp); Risdon E.Z. Band, selection, "The Daughter of the Regiment" (Donizetti); Emilio de Gogorza, baritone, "The Garden of Sleep" (De Lara), "Dream Faces" (Hutchinson); Risdon N.Z. Band, eupho. solo, Clem Meehan, "The Cavalier" (band accomp.) (Sutton); Mischa Elman, violin, "Capricetto" (Mendelssohn), "The Dew is Sparkling" (Elman); Risdon E.Z. Band, humorous tasia, "Musical Fragments" (arr. Rimmer); Malcolm M'Eachern, bass, "A Few More Years Shall Roll" (Bonner), "Only a Rough Old Diamond" (Trevor); Risdon E.Z. Band, S. Ploughman, cornet solo, "Alas, Those Chimes" (band accomp.) (Wallace); Kirby Lunn, contralto, "Boat Song" (Stanford); Risdon E.Z. Band, hymns (a) "Fierce Raged the Tempest" (Dykes), (b) "Peace, Perfect Peace" (Caldbeck), march "Naworth Castle" (Ord Hume). 9.50 p.m.: News session, British Official Wireless News; "Mercury" special Tasmanian news service; Tasmanian district weather report. 10.0 p.m.: G.P.O. clock chimes the hour. 10.1 p.m.: The Royal Autocar Club of Tasmania safety message. 10.2 p.m.: Our Tasmanian good-night thought. 10.3 p.m.: God Save the King. 10.4 p.m.: Close down.

Tuesday, December 11

New South Wales Broadcasting Company Limited.

2FC SERVICE

EARLY MORNING SESSION.

Announcer: Laurence Halbert.

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

MORNING SESSION.

Announcer: Laurence Halbert.

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

MIDDAY SESSION.

Announcer: Laurence Halbert.

Note.—Race results from Gosford races will be transmitted as received.

- 12.0 noon: "Big Ben" and announcements.
- 12.1: Stock Exchange, first call.
- 12.3: Official weather forecast; rainfall.
- 12.5: Studio music.
- 12.10: Summary of news, "Sydney Morning Herald."
- 12.15: Rugby wireless news.
- 12.18: A reading.
- 12.30: Studio music.
- 1.0: "Big Ben"; weather intelligence.
- 1.3: "Evening News" midday news service, Producers' Distributing Society's report.
- 1.20: Studio music.
- 1.28: Stock Exchange, second call.
- 1.30: Studio music.
- 2.0: "Big Ben." Close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

- 2.30 p.m.: Programme announcements.
- 2.32: Educational session for the schools.

- 3.0: "Big Ben." Kindergarten Union talk.
- 3.10: Pianoforte reproduction.
- 3.20: Popular music.
- 3.30: Dismal Desmond, comedian.
- 3.37: From the Wentworth—The Wentworth Cafe Orchestra, under the direction of Mr. Jimmy Elkins.
- 3.45: From the Studio—A talk.
- 4.0: "Big Ben." Greta Callow, soprano—(a) "Sanctuary" (Maurice Besley). (b) "The Yellow Hammer" (Liza Lehmann).
- 4.7: Popular music.
- 4.17: Dismal Desmond, comedian.
- 4.24: Greta Callow, soprano—(a) "Solveig's Song" (Grieg). (b) "Bird Music" (Johnson).
- 4.31: From the Wentworth—The Wentworth Cafe Dance Orchestra, under the direction of Mr. Jimmy Elkins.
- 4.45: From the Studio—Stock Exchange, third call.
- 4.47: Popular music.
- 5.0: "Big Ben." Close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

- 5.40: The chimes of 2FC.
- 5.45: The children's session, conducted by "The Hello Man." Letters and stories. Music and entertainment.
- 6.30: Dalgety's market reports (wool, wheat, and stock).
- 6.40: Fruit and vegetable markets.
- 6.43: Stock Exchange information.
- 6.45: Weather and shipping news.
- 6.48: Rugby wireless news.
- 6.50: Late sporting news.
- 7.0: "Big Ben." Late news service.
- 7.10: The 2FC Dinner Quartette, conducted by Horace Keats—(a) "Fairy Feet" (Finck). (b) "Der Rosenkavalier Waltz" (Strauss). (c) "Gavotte Moderne" (Severne). (d) "Our Miss Gibbs" (Monckton). (e) "Entracte Mamselle Modiste" (Herbert). (f) "I'll be Lonely" (Woods).

EVENING SESSION.

Announcer: A. S. Cochrane.

Accompanist: Ewart Chapple.

- 7.40: Programme announcements.
- 7.47: The Metropolitan Band.
- 8.0: "Big Ben." Wendling and Molloy, Radio Melody-makers—(a) "My Black Birds are Blue Birds now" (Friend). (b) "Jeannine, I Dream of Lilac Time" (Shilkret). (c) "Ten Little Miles from Town" (Kahn). (d) "There Ought to be a Law against that" (Friend).
- 8.10: Len Maurice, popular vocalist.
- 8.17: Vera Keogh, Irish play, "The Singer" (Padraic Pearce). Cast: Mac Dara (the singer), Eric Howell. Colm (his brother), Harry Jacobson. Marie Ni Flanachta, Vera Keogh. Shiela, Molly O'Brien. Maoliscachtlain (an Irish schoolmaster), Michael Doyle. Culmin, Clive Coppard. Diarmaid of the Bridge, Terence O'Conn.
- 8.47: Wendling and Molloy, Radio Melody-makers—(a) "Go Home and Tell your Mother" (Baer). (b) "Chiquita" (Wayne). (c) "Oh, is she mad at me?" (Friend). (d) "Too Busy" (Miller).
- 8.57: The Metropolitan Band.
- 9.8: Weather forecast.
- 9.10: From King's Hall—Second half of the concert conducted by the Welsh Male Voice Party.
- 10.15: From the Studio—Sketch by Vera Keogh—"Humorous Sketch."
- 10.25: Len Maurice, popular vocalist.
- 10.32: The Studio Dance Band, conducted by Cec. Morrison.
- 10.57: To-morrow's programme and announcements.
- 10.59: The Studio Dance Band, conducted by Cec. Morrison, with choruses by Len Maurice.
- 11.30: National Anthem. Close.

2BL SERVICE

Tuesday, December 11

MORNING SESSION.

Announcer: A. C. C. Stevens.

- 8 a.m.: G.P.O. clock and chimes.
- Metropolitan weather report.
- 8.1: State weather report.
- 8.2: Studio music.
- 8.15: G.P.O. clock and chimes.
- News service from the "Daily Telegraph Pictorial."
- 8.25: Studio music.

- 8.30: G.P.O. clock and chimes.
- Studio music.
- 8.35: Information; mails; shipping, arrivals, departures, and sailings.
- 8.38: News from the "Daily Telegraph Pictorial."
- 8.45: G.P.O. clock and chimes.
- Studio music.
- 9.0: G.P.O. clock and chimes.
- Studio music.
- 9.30: Half and hour with silent friends.
- 10.0: G.P.O. clock and chimes.
- Close down.

MIDDAY SESSION.

Announcer: Basil Kirke.

Note: Race results from Gosford races will be broadcast by courtesy of the "Sun" Newspapers.

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

AFTERNOON SESSION.

Announcer: Basil Kirke.

Accompanist: Kathleen Roe.

- 3.45: G.P.O. clock and chimes.
- Studio music.
- 4.0: Valentine Fairfax, baritone—(a) "Friend" (Novello Davies). (b) "The Blue Lagoon" (Russell).
- 4.7: Basil Kirke—"Wandering Thro' Coral Isles and Tropic Seas."
- 4.20: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.30: Mary Neal, contralto.
- 4.37: Sid Montague and his Ukelele.
- 4.44: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.54: Mary Neal, contralto.
- 5.0: G.P.O. clock and chimes.
- Sid Montague and his Ukelele.
- 5.7: "Sun" news service.
- 5.17: Studio music.
- 5.35: Producers' Distributing Society's poultry report.
- 5.37: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: Basil Kirke.

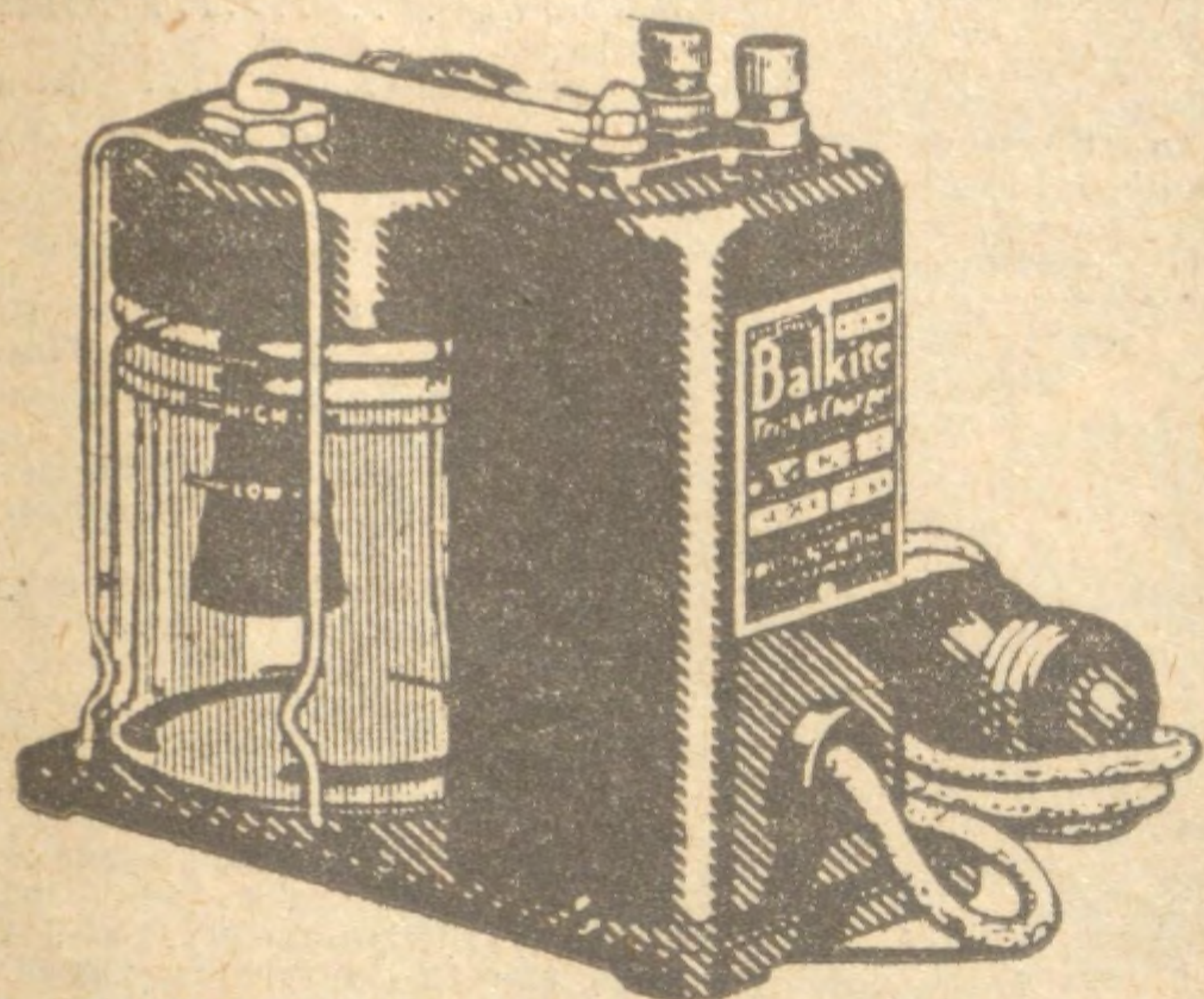
- 5.40 p.m.: Children's music and entertainment.
- 6.0: Children's letters and stories.
- Announcer: J. Knight Barnett.
- 6.30 p.m.: "Sun" news and late sporting.
- 6.40: 2BL Dinner Quartette—(a) "First Love" (Lehar). (b) "Florindo" (Bergmeier). (c) "Minuetto" (Grieg). (d) "The Girls of Gottenberg" (Monckton). (e) "Down in the Forest" (Landon Ronald). (f) "Nebraska" (Sissile).
- 7.10: 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: Mr. Pim and Miss Pam, in advertising talks and nonsense.
- 7.55: Programme and other announcements.

EVENING SESSION.

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

- 8 p.m.: G.P.O. clock and chimes.
- 2BL Topical Chorus.
- 8.3: From King's Hall—Concert conducted by the Welsh Male Voice Party.
- 9.0: From the Studio—Weather report and announcements.
- 9.2: From the Conservatorium—Testimonial concert to Beatrice Ainsworth, who will shortly leave for London, to pursue her musical studies.
- Piano (a) "A Pastorale" (Dohanany). (b) "Spinning Wheel" (Rhine Barton). Mr. Laurence Godfrey Smith.
- Songs, Miss Virginia Bassetti.
- Violin, "Scherzo Tarantelle" (Wieniawski). Madame Adrienne Talbot.
- Songs, "Vagabond" (Vaughan Williams). Mr. Robert Gilbert.
- Piano, "Rhapsody No. 11" (Liszt). Beatrice Ainsworth.
- 10.0: From the Studio—Weather report and forecast.
- Emil Sussmilch, baritone—



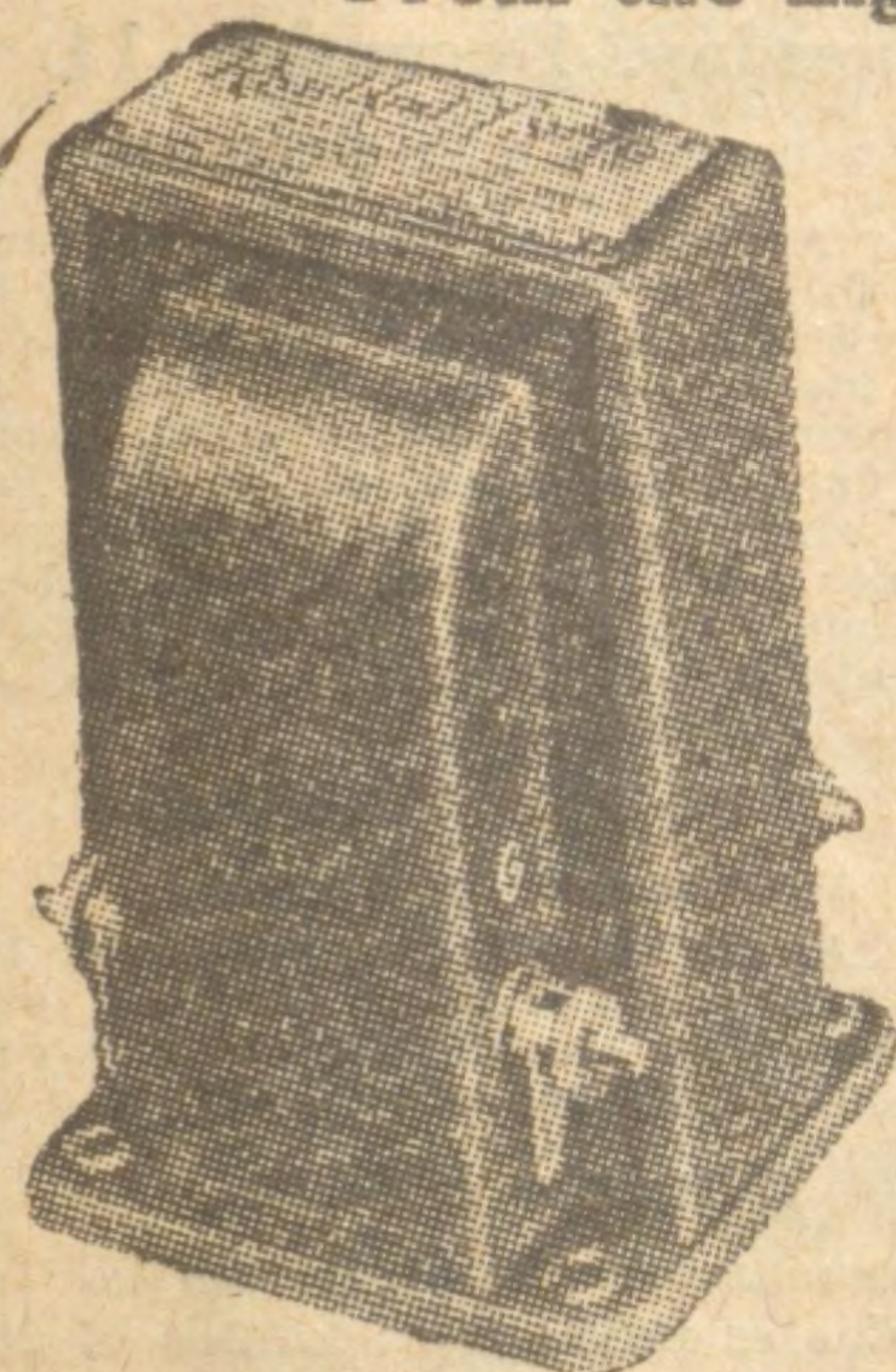
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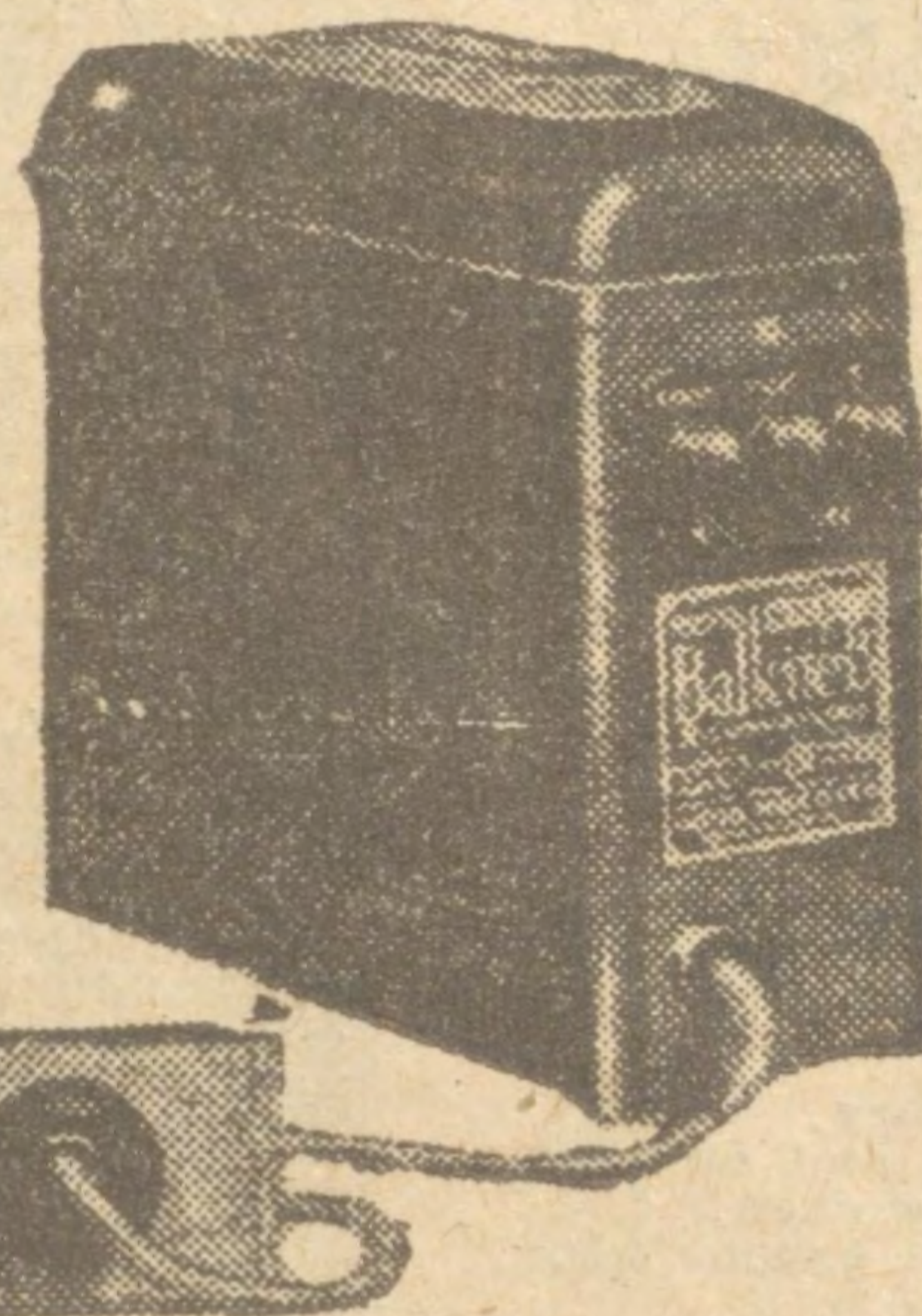
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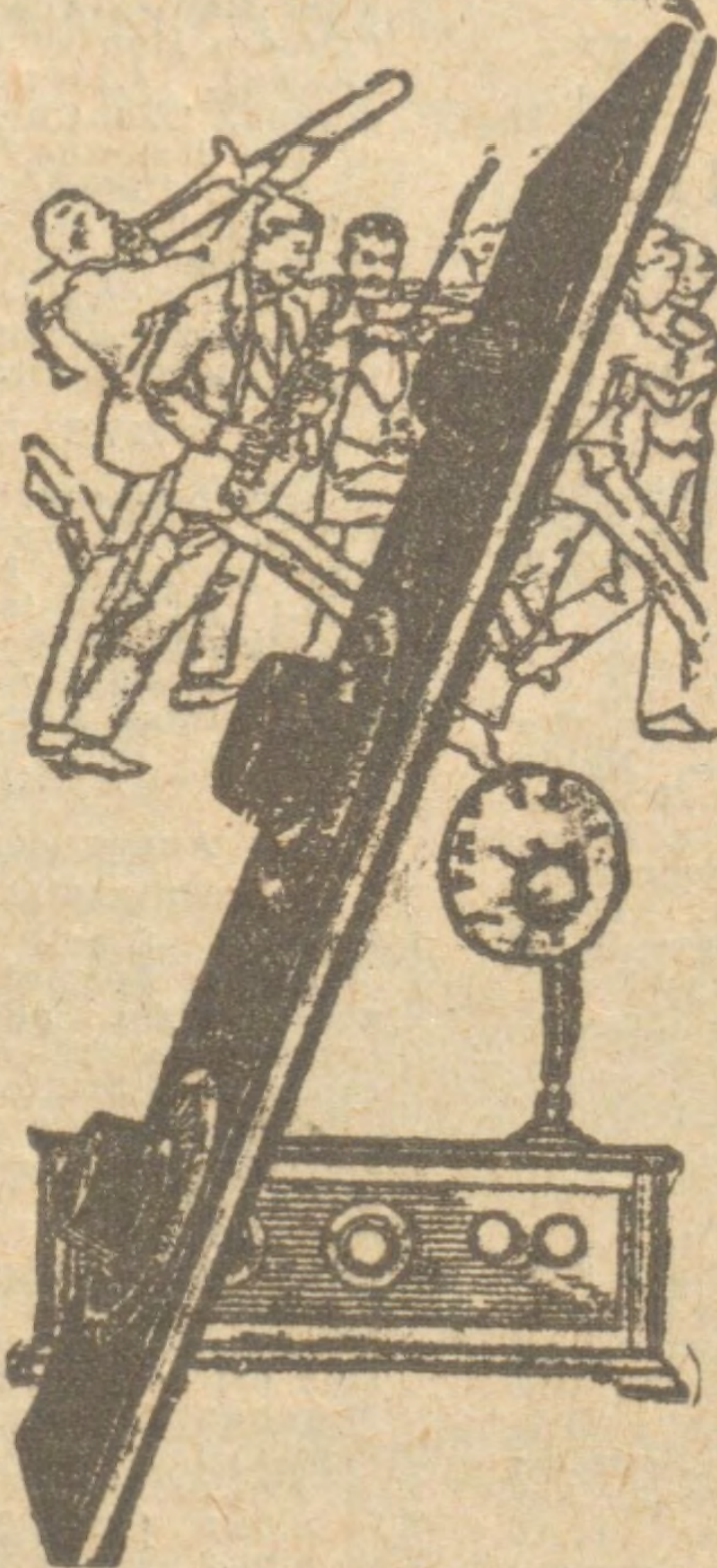
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- (a) "Under the Linen Tree" (Meyer-Helmond).
 (b) "One Lone Star" (MacCunn).
 (c) Selected.
 10.7: Hyam Marks will give a talk on cricket.
 10.20: Emil Sussmilch, baritone—
 (a) "O Little Mother of Mine" (Nevin).
 (b) "Chorus, Gentlemen" (Loehr).
 10.27: Resume of following day's programme
 10.30: National Anthem.

2GB, SYDNEY

Tuesday, December 11

- 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.: Concert by the Straube Piano Company. 10.30 p.m.: Close down.

2UW, SYDNEY

Tuesday, December 11

MIDDAY SESSION.

- 12.30 p.m.: To-day's anniversary. 12.32: Music. 1.0: G.P.O. clock and chimes. 1.1: Music. 2.0: Talks to women. 2.15: "Cheerio talk." 2.30: Close down. 4.30: Musical programme.

EVENING SESSION.

- 5.30 p.m.: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. 7.1: Music. 7.10: News item. 7.30: Musical interlude. 7.35: Literary Talk. 8.0: G.P.O. clock and chimes. 8.1: Music. 9.0: G.P.O. clock and chimes. 9.1: Comments on foreign affairs, by Mr. J. M. Prentice. 9.10: Music and request numbers. 10.0: Close down.

3LO, MELBOURNE

Tuesday, December 11

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; express train information. 8 a.m.: Melbourne Observatory time signal. 8.1 a.m.: Morning melodies. 8.15 a.m.: Close down.

MORNING SESSION.

Announcer: Maurice Dudley.

- 11 a.m.: 3LO's different dainties for the daily dinner. 11.5 a.m.: Miss E. Noble will speak on "Gas Cookery." 11.20 a.m.: Musical interlude. 11.25 a.m.: Mrs. Dorothy Silk will speak on "Homecrafts." 11.40 a.m.: Musical interlude. 11.45 a.m.: Under the auspices of the Travellers' Aid Society, Mrs. John MacLeod will speak on "Advice to Christmas Travelers."

MIDDAY SESSION.

Announcer: Maurice Dudley.

Accompanist: Agnes Fortune.

- 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 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 Company. 12.20 p.m.: The Station Orchestra—"Suite from Sigurd Jorsalfar" (Grieg). 12.30 p.m.: Tom Semple, tenor—"A Swan" (Grieg). "Two Brown Eyes" (Grieg). 12.37 p.m.: Stock Exchange information. 12.40 p.m.: The Station orchestra—"Peer Gynt Suite No. 2" (Grieg). 12.50 p.m.: Millie M'Cormick, mezzo-soprano—"Good Morning" (Grieg). "I Love Thee" (Grieg). 12.57 p.m.: Dorothy Roxburgh, viola—"Three Lyrics" (Grieg). 1.4 p.m.: The Station orchestra—"Waltz"

- (Grieg). "Elegie" (Grieg). "Homeward" (Grieg). 1.11 p.m.: Meteorological information; weather forecast for Victoria, Tasmania, South Australia, and New South Wales; ocean forecast; river reports; rainfall. 1.18 p.m.: Tom Semple, tenor—"A Lovely Evening in Summer 'Twas" (Grieg). "The Minstrel" (Grieg). 1.25 p.m.: The Station orchestra—"Andante from Sonata No. 7" (Grieg). "French Serenade"—folk song (Grieg). 1.37 p.m.: Millie M'Cormick, mezzo-soprano—"The First Primrose" (Grieg). "Solweig's Song" (Grieg). 1.45 p.m.: Close down.

AFTERNOON SESSION

Announcer: Maurice Dudley

Accompanist: Agnes Fortune.

- 2.15 p.m.: The Radi-o-Aces. "Last Night I Dreamt You Kissed Me" (Kahn). "That's My Mammy" (Donaldson). "Honeymoon Cottage" (Lumsdaine). 2.24 p.m.: Julia Russell (soprano). "The Greatest Wish in the World" (del Riego). "What's in the Air To-day" (Eden). 2.31 p.m.: The Radi-o-Aces. "Ah, Sweet Mystery of Life" (Herbert). "Evening Star" (Turk). "Russian Rag" (Stitzel). 2.40 p.m.: Valda St. Nicolay (contralto). "My Desire" (Cadman). "The Little Damsel" (Novello). 2.47 p.m.: The Radi-o-Aces. "Lolita" (Stohgam). "Henry's Made a Lidy Out of Lizzie" (O'Keefe). "We'll Have a New Home in the Morning" (Buck). 2.56 p.m.: Victor Baxter (tenor). "Requiem" (Harrhy). "Colette" (Harrhy). 3.3 p.m.: The Radi-o-Aces. "In a Bamboo Garden" (Donaldson). "Anything You Say" (Donaldson). "My Melancholy Baby." 3.12 p.m.: Norman Pill (comedian). "The Vicar's Fancy Dress Ball." "Dismal Jimmy." 3.19 p.m.: The Radi-o-Aces. "Constantinople" (Coulton). "Don't Cry, Baby" (Kahn). "Love Affairs" (Robinson). 3.28 p.m.: Julia Russell (soprano). "Love I Have Won You" (Ronald). "Be Still, Blackbird" (Sanderson). 3.35 p.m.: The Radi-o-Aces. "Sunshine" (Berlin). "Jazz Master" (Meyerall). "In My Bouquet of Memories" (Lewis). 3.44 p.m.: Valda St. Nicolay (contralto). "Dream Tryst" (Cadman). "My Little Banjo" (Dichmont). 3.51 p.m.: The Radi-o-Aces. "Sentimental Baby" (Palmer). "Rose of Monterey" (Guy). "Red Head" (Embury). 4 p.m.: Victor Baxter (tenor). "Over the Dreamland Sea" (Phillips). "I Hid My Love" (d'Hardelot). 4.7 p.m.: The Radi-o-Aces. "Jeannine" (Gilbert). "Dream House" (Fox). "I'm Sorry, Sally" (Kahn). 4.16 p.m.: Norman Pill (comedian). "To Cheer Him Up." "The Last of the Romans." 4.23 p.m.: The Radi-o-Aces. "Mary Ann" (Davis). "Tell Me To-night" (Little). "Let a Smile Be Your Umbrella" (Fain). 4.32 p.m.: Sonora recital. News session—5 p.m.: "Herald" news service, Stock Exchange information. 5.10 p.m.: Close down.

EVENING SESSION

Announcer: Maurice Dudley.

- 6.0 p.m.: Answers to letters and birthday greetings by "Billy Bunny." 6.25 p.m.: Musical interlude. 6.30 p.m.: "Little Miss Kookaburra" has a message from Santa Claus for her Kookaburres and a Christmas story for the older ones.

NIGHT SESSION

Announcer: J. O'Connor.

Accompanist: Agnes Fortune.

- 7.5 p.m.: Stock Exchange information. 7.15 p.m.: Special report of John M'Namara and Co.; official report of the Newmarket stock sales by the Associated Stock and Station Agents, Bourke Street, Melbourne; fish market reports by J. R. Borrett, Ltd.; rabbit prices; market reports by the Victorian Producers' Cooperative Co., Ltd.; poultry, grain, hay, straw, jute, dairy, produce, potatoes, and onions; market reports of fruit by the Victorian Fruitellers' Association; wholesale prices of fruit by the wholesale Fruit Merchants' Association. 7.30 p.m.: News session. 7.43 p.m.: Birthday greetings. 7.45 p.m.: Out of the Past. 7.46 p.m.: Under the auspices of the University Extension Board, F. R. E. Mauldon, B.A., M.E.C., Senior Lecturer in Economics, at the University of Melbourne, will speak on "Labor Turnover in Australian Industries." 8 p.m.: A Maker of History. 8.1 p.m.: "A Runaway Girl," musical numbers only. Musical directress: Madame Ethel Ashton. Produced by Maurice Dudley.

CAST:—

- Brother Tamarind Edgar Chapple
 Guy Stanley T. James Lloyd

Signor Paloni

- Mr. Creel Frank Conrad
 Sir William Hake John Donovan
 Lord Coodle Albert Harford
 Leonello
 Pietra Pascara James Russell
 Flipper Allan Bell
 Alice Jean Kelly
 Dorothy Stanley Rose Clayton
 Carmenita Merle Griffin
 Lady Coodle Elsie Lang
 Fraulein von Der Hohe Lillian Gray
 Winifred Grey Florence Blitz
 9.30 p.m.: Mrs. Norman Brookes will speak on "Wimbledon."
 9.45 p.m.: The Station Orchestra. Largo, "New World's Symphony" (Dvorak).
 "My Last Abode" (Schubert).
 9.55 p.m.: James Hay (tenor). Selections from his repertoire.
 10.2 p.m.: The Station Quartet. "Death and the Maiden" (Schubert).
 10.22 p.m.: James Hay (tenor). Selections from his repertoire.
 10.30 p.m.: "Argus" news service; British official wireless news from Rugby; meteorological information; Eric Welch's selections for the Kyneton races.
 10.40 p.m.: Ida Walker (contralto). "This is the Island of Gardens" (Coleridge Taylor).
 "The Rainbow Child" (Coleridge Taylor).
 10.47 p.m.: The Radi-o-Aces. "The Dance of the Blue Danube" (Fisher).
 "Is It Gonna Be Long" (Whiting).
 "It Goes Like This" (Creaser).
 "My Melancholy Baby" (Norton).
 11.0 p.m.: Our Great Thought.
 11.1 p.m.: The Radi-o-Aces. "That's My Weakness Now" (Stept).
 "Get Out and Get Under the Moon" (Tobias).
 "In a Bamboo Garden" (Donaldson).
 "Anything You Say" (Donaldson).
 "Fascinating Vamp" (Nuzzbaum).
 Selected.
 "Good Night Song."
 11.40 p.m.: God Save the King.

3AR, MELBOURNE

Tuesday, December 11

MORNING NEWS SESSION.

- 3 p.m.: A recital of the world's masters. 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: John Stuart.

- 11 a.m.: A recital of the best and latest recordings. 12.30 p.m.: British official wireless; announcements. 12.40 p.m.: Continuation of recital. 1.30 p.m.: Close down.

EVENING SESSION.

Announcer: Frank Hatherley.

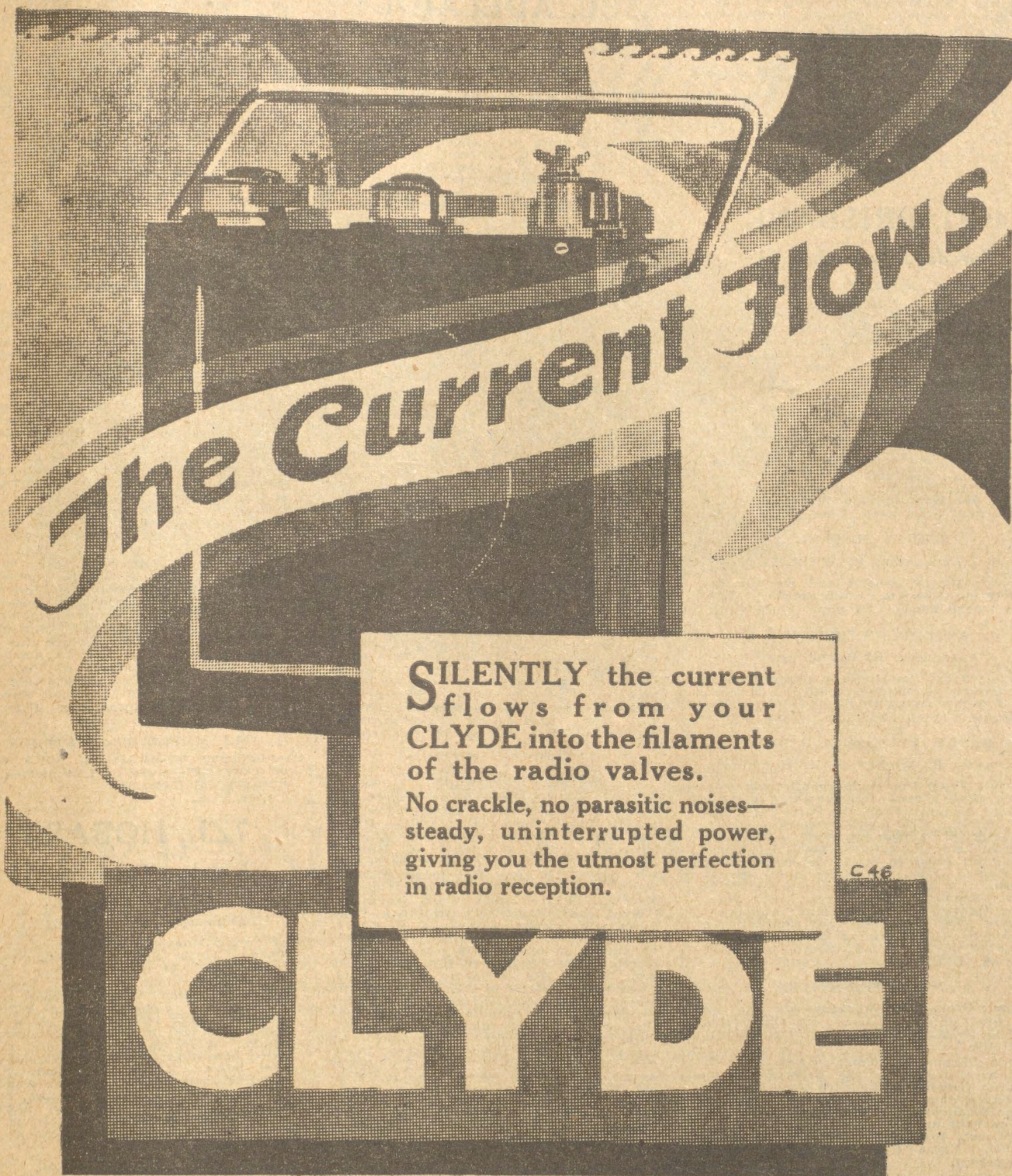
- 6 p.m.: The scientific reproduction of absent artists.

NIGHT SESSION.

Announcer: Frank Hatherley.

Accompanist: Reg. Brown.

- 8 p.m.: Mme. S. E. Soward, "French Without Tears."
 8.15 p.m.: A. W. Jackson, "Golf."
 8.30 p.m.: Coburg City Band: March, "Fodens Own" (Greenwood); selection, "Recollections of Verdi" (Rimmer).
 8.45 p.m.: James Riley, tenor, "A Farewell" (Liddle). "If You Wert Blind" (Johnson).
 8.52 p.m.: Coburg City Band: Waltz, "Garden Sunbeams."
 9 p.m.: Robert Gillard, bass, "Old Barty" (Grant). "Tommy Lad" (Margetson).
 9.7 p.m.: Professor R. J. A. Berry, "The Nashville and the Negroes"
 9.22 p.m.: Coburg City Band, fantasia, "Silverdale" (Allen).
 9.32 p.m.: Sundowners Quartette, "Believe me if all those endearing young charms" "Kitty Magee" (Parker).
 9.39 p.m.: Victor Stephenson, piano, "Sonata Op. 22" (Schumann). "Presto—Andantino—Rondo."
 9.54 p.m.: James Riley, tenor, "Afton Water" (Scotch). "I Hear a Thrush at Eve" (Cadman).
 10.1 p.m.: Coburg City Band, cornet, "Home to Our Mountains" (Verdi).



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10.10 p.m.: Sundowners Quartette. "Russian Lullaby" (Berlin). "There's Everything Nice About You" (Coslow).
 10.17 p.m.: Coburg City Band, selection, "Songs of the Past" (Rimmer).
 10.25 p.m.: "Age" news service, exclusive to 3AR.
 10.28 p.m.: Weather forecast.
 10.29 p.m.: Our Australian good-night quote.
 10.30 p.m.: God Save the King.

4QG, BRISBANE

Tuesday, December 11

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.: Lecturette, talk on "Home Crafts" by Mrs. R. L. Reid. 11.45 a.m.: From the Wintergarden Theatre, Wurlitzer organ. 12.0 noon: Close down.

MIDDAY SESSION.

Announcer: R. Wight.

1.0 p.m.: Market reports and weather information. 1.20 p.m.: From the Paris Cafe, lunch-hour music. 2.0 p.m.: Close down.

AFTERNOON SESSION.

Announcer: H. Humphreys.

3.0 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 news. 4.30 p.m.: Close down.

EARLY EVENING SESSION.

Announcers: R. Wight and H. Humphreys.

6.0 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 "Uncle Ben." 7.0 p.m.: News in brief. 7.5 p.m.: Stock Exchange news. 7.6 p.m.: Metal Quotations. 7.7 p.m.: Market reports. 7.25 p.m.: Fenwick's stock report. 7.30 Weather information. 7.40 p.m.: Announcements. 7.43 p.m.: Standard time signals. 7.45 p.m.: Lecturette, a talk on "Photography" by Mr. F. L. South (manager, Kodak, Ltd.).

NIGHT SESSION.

8.0 p.m.: From Woollongabba—
 A programme arranged by Olsen and Goodchap and relayed from "The White House."

9.0 p.m.: From the School of Arts—
 A choral recital by the Brisbane Apollo Club (conductor, Leonard Francis).
 Between choral items, the following will be broadcast from the studio:—
 Irene Elphinstone (contralto)—
 "Love's Precinct" (Stewart)
 "The Night Has a Thousand Eyes" (Lamber).

9.30 p.m.: From the studio—
 In response to many requests, the Anglo Male Quartette will repeat the Nigger Minstrel Night given from 4QG some months ago.

CAST:

Mr. Uggins R. Pike
 Mr. Bones R. N. Watts
 Mr. Joe C. R. Kolb
 Mr. Tambo A. F. Stoddart

MUSICAL NUMBERS:

"De Ole Banjo"
 "Old Black Joe"
 "I'd Lak to go Down South"
 "Swanee Ribber"
 "Goodnight."

10.0 p.m.: "The Daily Mail" news, "The Courier" news, weather news, "Queenslander" bi-weekly news service for distant listeners.

10.30 p.m.: Close down.

5CL, ADELAIDE

Tuesday, December 11

MORNING SESSION

Announcer: Athol Lykke.

11.0 a.m.: G.P.O. chimes. 11.1 a.m.: Sonora recital, a few minutes with well-known Columbia orchestras. 11.15 a.m.: "Economist," kitchen-craft and menu talk. 11.30 a.m.: Sonora recital, a few more minutes with Columbia celebrated artists.

MID-DAY SESSION

12 noon: G.P.O. chimes. 12.1 p.m.: Jean Sinclair (contralto). "The Leaves and the Wing" (Leoni); "Prelude" (Scott). 12.6: Tom King (pianist). "Praeludium" (Greig). 12.10: George Cowley (baritone). "Young Tam o' Deyon" (Coates); "Land of the Sky Blue Water" (Cadman). 12.15 p.m.: "The Advertiser" general news service. 12.35 p.m.: British official wireless news. 12.40 p.m.: Sonora recital, of celebrated H.M.V. artists. 12.50 p.m.: S.A. Railway information. 12.51 p.m.: S. C. Ward and Co.'s Stock Exchange information. 12.57 p.m.: Meteorological information. 1.0 p.m.: G.P.O. chimes. Organ recital, by Laurence Haggitt, from Flinders Street Baptist Church. "Prelude and Fugue in D Major" (Bach); "Pastorale" (Rheinberger). "Nocturne in B Minor" (Haigh). "Scherzo in F Major" (Haigh). 1.20 p.m.: Howard Bauerochse (tenor), George Cowley (baritone), vocal duets. "Phyllis Has Such Charming Graces" (Folk Song). "On St. Nicholas Day" (Martin). 1.26 p.m.: Tom King (pianist). "Marionettes Espagnoles" (Cui). "Prelude in C Minor" (Pachulski). 1.32 p.m.: Jean Sinclair (contralto). "Reaping" (Clarke). "O What Comes Over the Sea" (Taylor). 1.38 p.m.: Helen Magarey (violiniste). "Fleur di Mai" (Hubay). "Sonata in D" (Handel). 1.44 p.m.: Howard Bauerochse (tenor), George Cowley (baritone), vocal duets. "Ah, Moon of My Delight" (Lehmann). "I Wonder What the Stars are" (Saxby). "Jock the Fiddler" (Martin). 1.51 p.m.: Helen Magarey (violiniste). "Barcarolle" (Spohr). "Pale Moon" (Logan-Kreisler). 1.57 p.m.: Meteorological information. 2.0 p.m.: G.P.O. chimes and close down.

AFTERNOON SESSION

Announcer: Athol Lykke.

3.0 p.m.: G.P.O. chimes. 3.1 p.m.: The Red Hot Peppers Dance Band. "Miss Annabelle Lee." "Lucky Day." "Rag Doll." 3.10 p.m.: Sydney Burchall (popular baritone). "No Wonder I'm Happy" (Akst). "I Just Roll Along" (De Rose). 3.16 p.m.: The Red Hot Peppers Dance Band. "Cock-a-Doodle." "Look in the Mirror." 3.23: Linda Wald (soprano). "Sing, Sing, Blackbird" (Phillips). "The Swan" (St. Saens). 3.29 p.m.: H. Kugelberg (cellist). "Cradle Song" (Brahms). "L'Adieu" (Squire). 3.36 p.m.: A comedy interlude by Sydney Hollister. 3.46 p.m.: Red Hot Peppers Dance Band. "Stampede." "Get Out and Get Under the Moon." "Davenport Blues." 3.56 p.m.: Sydney Burchall (popular baritone). "Oh! that we two were Maying" (Marshall). "Star and the Flower" (D'Hardelot). 4.2 p.m.: Red Hot Peppers Dance Band. "That's My Mammy." "That's My Weakness Now." "Rubenesque." 4.10 p.m.: Harold Tidemann (baritone). "Sea Fever" (Ireland). "To Bachelors" (Elkin). 4.16: H. Kugelberg (cellist). "Roccoco" (Denis). "Pavane" (Couperin). 4.22 p.m.: Linda Wald (soprano). "Four Ducks on a Pond" (Needham). "Blue Butterfly" (Dickson). 4.28 p.m.: Red Hot Peppers Dance Band. "When You Played the Organ." "Nothing." "Heebie Jeebie." 4.38 p.m.: Harold Tidemann (baritone). "Let Me Sit in Your Garden." "The Night Rider" (Trebarne). 4.44 p.m.: Rev. G. E. Hale, B.A., talk. "Let us make friends." 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: J. L. Norris.

6.0 p.m.: G.P.O. chimes; birthday greetings, correspondence, songs and stories by "The Wattle Lady." 6.30 p.m.: Musical interlude on "The Sonora." 7.0 p.m.: G.P.O. chimes. 7.1 p.m.: S. C. Ward and Co.'s Stock Exchange information. 7.5 p.m.: General market reports. 7.8 p.m.: 5CL's sporting service, by "Silvius," including Tattersall's acceptances. 7.17 p.m.: Miss Laurie McLeod, talk on "The Art of Dancing." 7.28 p.m.: Pro-

fessor Sydney Robjohns, A.R.A.M., talk on "Experiencing Music." 7.42 p.m.: Dr. Herbert Basedow, M.A., M.P., "An Australian Talk."

NIGHT SESSION

8.0 p.m.: G.P.O. chimes. Concert arranged by the 5CL Twinkler Boys' Club. 10.15 p.m.: "The Advertiser" general news service. 10.22 p.m.: 5CL's sporting service by "Silvius," including Tattersall's acceptances. 10.30 p.m.: Meteorological information. 10.31 p.m.: By courtesy of 3LO, Melbourne, modern dance numbers by the famous Radi-o-Aces. 11.10 p.m.: God Save the King.

6WF, PERTH

Tuesday, December 11

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. 1.2 p.m.: Studio Instrumental Trio, conducted by Mr. Val Smith. 1.30 p.m.: Close down. 3.30 p.m.: Tune in. 3.35 p.m.: Pianoforte selections by Miss Audrey Dean Vocal and instrumental numbers from the studio. Talk: "Handbags and Hosiery," by Junette. 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 and birthday greetings, by Uncle Percy. 7.5 p.m.: Items by the Studio Trio. 7.30 p.m.: Stocks, markets, news. 7.45 p.m.: Talk by Dr. J. S. Battye, B.A., LL.B. 8 p.m.: Time signal. 8.1 p.m.: Weather notes, supplied by the Meteorological Bureau of West Australia. Station announcements, such as alterations to programmes, etc. 8.3 p.m.: CONCERT NIGHT. Musical programme from the studio, including vocal and instrumental artists. 9 p.m.: Late news items, by courtesy of the "Daily News" Newspaper Co.; ships within range announcements; weather report and forecast; station announcements. 10.30 p.m.: Close down.

104.5 METRE TRANSMISSION.

Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL, HOBART

Tuesday, December 11

MIDDAY SESSION.

Announcer: Jack Broadbent.

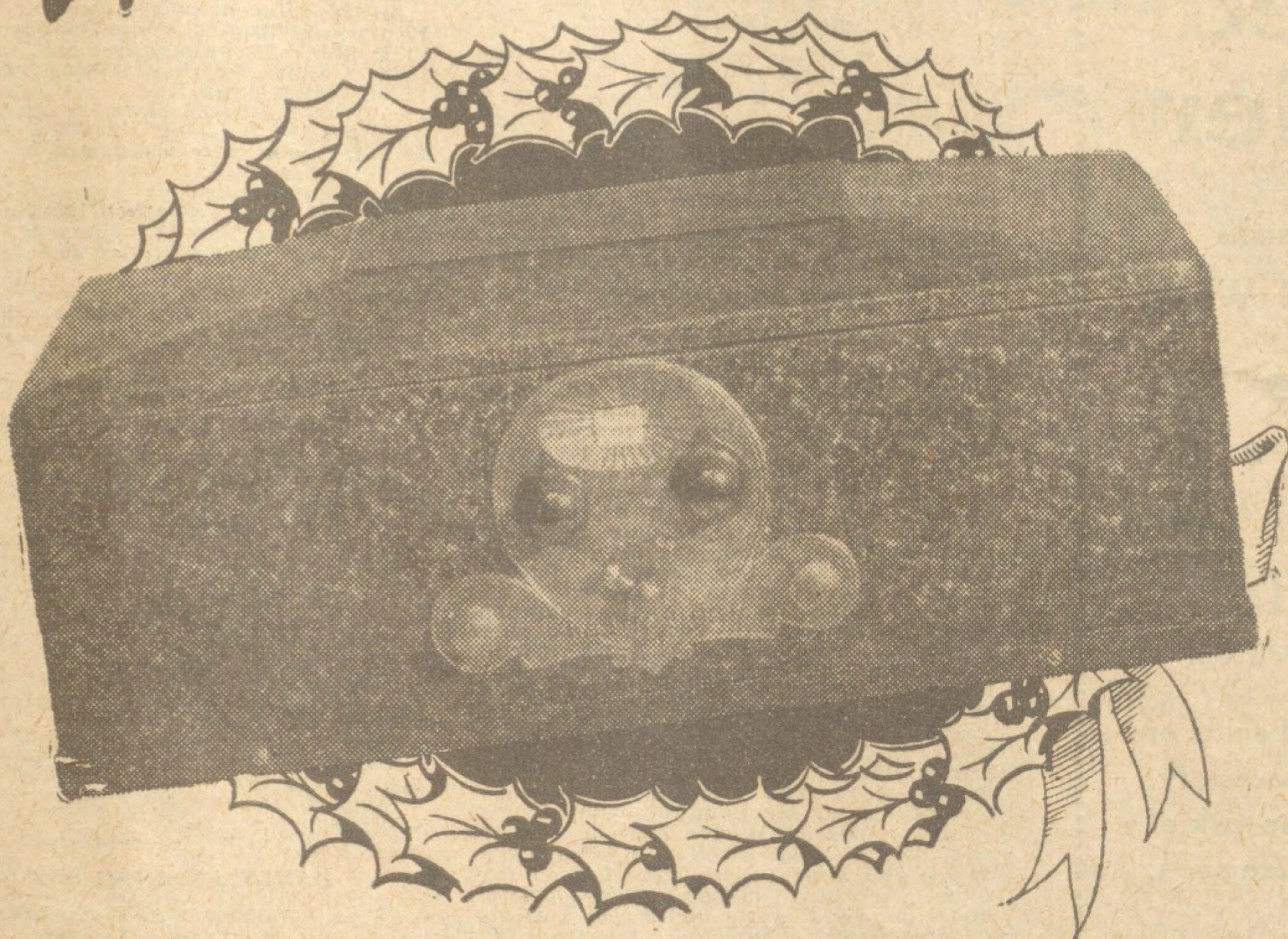
11.30 a.m.: Monsieur Sonora, musical selections. 11.34: Special Midlands weather forecast. 11.35: Monsieur Sonora, musical selections. 11.55: Tasmanian station's 9 a.m. weather report. 12.0 noon: G.P.O. clock chimes the hour. 12.1 p.m.: Shipping information; ships within wireless range; mail notices; housewives' guide. 12.8: Monsieur Sonora, musical selections. 12.11: British Official Wireless news. 12.20: Monsieur Sonora, musical selections. 12.29: Announcements. 12.33: Monsieur Sonora, musical selections. 12.55: "Mercury" news service; produce sales held at Railway 1.10: Monsieur Sonora, musical selections. 1.30: Close down.

AFTERNOON SESSION.

Announcer: Jack Broadbent.

3 p.m.: G.P.O. clock chimes the hour. 3.1: Monsieur Sonora, musical selections. 3.4: Weather information. 3.5: Monsieur Sonora, musical selections. 3.15: An all-star programme by the Discus Ensemble—Jack Jacob's Ensemble, instrumental waltz, "España" (Waidteufel); "L'Estudiantina" (Waldteufel). Muriel Brunskill, contralto, "O Lovely Night" (Teschemcher). "Kathleen Mavourneen" (Crawford). The J. H. Squire Celeste Octet, piano concerto "1812" overture, "Memories of Tchaikowsky," parts 1 and 2 (arr. Sear). Signor Lenghi-Cellini, tenor, "Maire, My Girl" (Aiken); "I Hear you Callin'" (Marshall). Eddie Thomas's Collegians, waltz, "Beautiful Ohio" (Earl). Columbia Symphony Orchestra, "March of the Toys" (Herbert). Dame Clara Butt and Kennerley Rumford, duet, "The Keys of Heaven" (Traditional); "Friendship." Lener String Quartet, "Quarto in E

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Minor, parts 1 and 2 (Smetana). Handbells played by the famous Barnardo Musical Boys, "The Legend of the Bells" (Chiming Bells of Long Ago) (Christobel). Mandolin Band, 65 performers, Giuseppe Verdi of Leghorn, "Les Millions D'Arlequin," "Carmen" Act 4 (Bizet). Joseph Szigeti, violin solo, "Tambourin Chinois" (Kreisler); "Menuet" (Debussy). 4.15: Mrs. Miller will speak on "Physical Training for Girls." 4.30: Close down.

EARLY EVENING SESSION.

Announcer: Jack Broadbent.

6.15 p.m.: Monsieur Sonora, musical selections. 6.30: Doreen Elsie (15 years of age, piano recital, "The Rosary," "Poet and Peasant." 6.45: "The Storey Lady" will tell a story to the children. 7.0: Answers to letters and birthday greetings by "Uncle David." 7.5: Monsieur Sonora, musical selections. 7.15: "Mercury" special Tasmanian news service; Railway auction produce sales; weather information; Hobart Stock Exchange quotations.

EVENING SESSION.

Announcer: Jack Broadbent.

7.30 p.m.: A "Gas Cookery Talk" by "Regulo." 7.45: W. E. Fuller will speak on "Literary Lapses and Library Lists." 8.0: G.P.O. clock chimes the hour. 8.1: Fifty years ago to-day. 8.6: A concert by the Pavilion Danse Band and M'Elle Columbia (V. Byrne, conductor)—Harry Dearth, bass, "Onaway, Awake, Beloved" (Cowan), "Leanin" (Sterndale Bennett) Pavilion Danse Band, foxtrot, "Without you, Sweetheart" (de Sylva), foxtrot, "Rain" (Ford); waltz, "Together" (de Sylva). John Boennee, the boy soprano, "The Creation," with Verdue Clad, parts 1 and 2. Pavilion Danse Band, foxtrot, "Beautiful" (Shay); waltz, "Was it a Dream?" (Coslow); foxtrot, "Mary Ann" (Davis), Ametita-Curci, soprano, "Andantino" (Lemare). Evan Williams, tenor, "A May Morning" (Denza). Pavilion Danse Band, foxtrot, "Rio Rita" (Tierney); yales, "The Kinkajou" (Tierney); foxtrot, "After my Laughter came Tears" (Tobias). Rachel Morton, soprano, "Love will like a Wild Birdling Fly" (Bizet); "Love and Music, these have I lived for" (Puccini). Pavilion Danse Band, foxtrot, "Get out and get under the Moon" (Tobias); yales, "Sunshine" (Berlin); foxtrot, "That's my Weakness now" (Green). Robert Radford, baritone, "I Celler Cool" "Rocked in the Cradle of the Deep" (Stuckton). Pavilion Danse Band, waltz, "Ramona" (Wayne); yales, "Chlo-o" (Moret); foxtrot, "Ice Cream" (Johnson). De Reske Singers, "Adoration"; "On Wings of Song" (Mendelssohn, arr. Vande Stucken). Pavilion Danse Band, waltz "Can't you Hear me say I Love you?" (Brown); yales, "The Man I Love" (Gershwin); foxtrot, "There's One Little Girl who Loves me" (Kahn). Gershan Singers, "O Peaceful Night" (Lerman); "What Ho! What Ho!" (Beale). 9.50: News session—British Official Wireless news; "Mercury" special news service; Tasmanian district weather report. 10.0: G.P.O. clock chimes the hour. 10.1: The Royal Autocar Club of Tasmanian Safety Message. 10.2: Our Tasmanian good-night thought. 10.3: God Save the King. 10.4: Close down.

Wednesday, Dec. 12

New South Wales Broadcasting Company Limited.

2FC SERVICE

EARLY MORNING SESSION.

Announcer: Laurence Halbert.

7 a.m.: "Big Ben" and announcements. 7.2: Official weather forecast; rainfall, river reports; temperatures; astronomical memoranda. 7.5: "Sydney Morning Herald" summary. 7.10: Shipping intelligence; mail services. 7.12: Studio music. 7.22: Investment market; mining sharemarkets; metal quotations. 7.28: Wool sales; breadstuffs markets; Inter-State markets; produce markets. 7.35: Studio music. 8.0: "Big Ben." Close down.

MORNING SESSION.

Announcer: Laurence Halbert.

10.0 a.m.: "Big Ben" and announcements.

10.3: Pianoforte reproduction. 10.10: "Sydney Morning Herald" news service. 10.25: Studio music. 10.45: A talk on home cooking and recipes, by Miss Ruth Furst. 11.0: "Big Ben." A.P.A. and Reuter's cable services. 11.5: Close down.

MIDDAY SESSION.

Announcer: Laurence Halbert.

Note.—Race results from Ascot ponies will be transmitted as received. 12.0 noon: "Big Ben" and announcements. 12.2: Stock Exchange, first call. 12.3: Official weather forecast, rainfall. 12.5: Musical item. 12.10: Summary of news, "Sydney Morning Herald." 12.15: Rugby wireless news. 12.18: A reading. 12.30: Studio music. 1.0: "Big Ben"; weather intelligence. 1.3: "Evening News" midday news service. Producers' Distributing Society's market report. 1.20: Studio music. 1.28: Stock Exchange, second call. 1.30: Studio music. 2.0: "Big Ben." Close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

2.30 p.m.: Programme announcements. 2.32: Musical session. 3.0: "Big Ben"; pianoforte reproduction. 3.15: Popular music. 3.30: G. W. Desmond, comedian. 3.37: Ethel Muller, contralto. 3.45: "Tea-cups Chatter," by Doreen Walsh. 4.0: "Big Ben." From the Wentworth—The Wentworth Cafe Dance Orchestra, under the direction of Mr. Jimmy Elkins. 4.15: From the Studio—Ethel Muller, contralto. 4.22: G. W. Desmond, comedian. 4.30: From the Wentworth—The Wentworth Cafe Dance Orchestra, under the direction of Mr. Jimmy Elkins. 4.45: From the Studio—Stock Exchange, third call. 4.47: Popular music. 5.0: "Big Ben." Close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40 p.m.: The chimes of 2FC. 5.45: The "Hello Man" talks to the children, assisted by Uncle Ted and "Sandy." Letters and stories. Music and entertainment. 6.30: Dalgety's market reports (wool, wheat and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben." Late news service. 7.10: The 2FC Dinner Quartet, conducted by Horace Keats—(a) "In a Hongkong Street" (Humphries). (b) "Invano" (Amadei). (c) "Marche Militaire" (Schubert). (d) Suite "Intermezzo" (Rosse). (e) "Londonderry Air" (Arr. Kreisler). (f) "Get out and get under the moon" (Shay).

EVENING SESSION.

Announcer: A. C. Cochrane.

Accompanist: Ewart Chapple.

7.40 p.m.: Programme announcements. 7.45: Pianoforte reproduction. 7.57: Announcements. To-night's programme has been specially arranged by Mr. Howard Ashton, as an example of the type of entertainment desired by lovers of classical music. His contention is that classics and popular items should not be intermingled. Those listeners to whom severely classical music does not appeal are reminded that 2BL Service offers to-night a programme arranged along popular lines. 8.0: Classical programme by Mr. Howard Ashton. String Quartet. Op. 9 in C (Beethoven). 8.35: Soprano solos—(a) "Deh Vieni non tardar" (Mozart). (b) "My Mother Bids Me" (Haydn). Madame Emily Marks. 8.45: Violin—"Romance in G" (Beethoven). Aria, Porpora. Miss Dulcie Blair. 8.50: Contralto—(a) "Che Faro" (Gluck). (b) "O Rest in the Lord" (Mendelssohn). Miss Barbara Briscoe. 9.0: "Big Ben." Lucille Bruntnell—"A Visit to Shakespeare's Birthplace—Stratford-on-Avon." 9.15: String Quartet—"Quartet in D" (Kaiser Quartet) (Haydn).

- 9.35: Tenor—(a) "Adelaide" (Beethoven).
(b) "Who is Sylvia?" (Schubert).
Mr. Bryson Taylor.
- 9.42: 'Cello—"Sonata" (Brahms).
Mr. Bryce Carter.
- 10.2: Soprano—"Elsa's Dream" (Wagner)
Madame Emily Marks.
- 10.7: Piano and two violins—
"Slow Movement of Bach's Double Con-
certo" (Bach).
Horace Keats, piano.
Dulcie Blair, violin.
Vincent Aspey, violin.
- 10.12: Tenor—(a) "O Mio Tesoro" (Mozart)
(b) "Lohengrin's Narration" (Wagner).
Mr. Bryson Taylor.
- 10.20: Trio—Piano, Violin, 'Cello—
"Cradle Song" (Schubert).
Horace Keats, piano.
Dulcia Blair, violin.
Vincent Aspey, violin.
- 10.30: Roaming the Ether—The New South
Wales Broadcasting Company, Limited
through the courtesy of Amalgamated
Wireless Limited, is presenting a novelty
each Wednesday night for the next six
weeks, and listeners will have an op-
portunity of visiting various countries by
wireless.
To-night we will transmit a short pro-
gramme from PCLL (Holland).
- 10.40: National Anthem. Close.

2BL SERVICE

Wednesday, December 12

MORNING SESSION.

Announcer: A. C. C. Stevens.

- 8 a.m.: G.P.O. clock and chimes.
Metropolitan weather report.
- 8.1: State weather report.
- 8.2: Studio music.
- 8.15: G.P.O. clock and chimes.
News from the "Daily Telegraph Pic-
torial."
- 8.25: Studio music.
- 8.30: G.P.O. clock and chimes.
Studio music.
- 8.35: Information; mails; shipping, arrivals,
departures, and sailings.
- 8.38: News from the "Daily Telegraph Pic-
torial."
- 8.45: G.P.O. clock and chimes.
Studio music.
- 9.0: G.P.O. clock and chimes.
Studio music.
- 9.30: Half an hour with silent friends.
- 10.0: 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, con-
ducted by Miss Gwen Varley.
- 11.30: Advertising hints.
- 11.40: Women's session, conducted by Mrs
Cranfield.
- 12.0 noon: G.P.O. clock and chimes.
Special ocean forecast and weather report.
- 12.3: Studio music.
- 12.30: Shipping and mails.
- 12.35: Market reports.
- 12.48: "Sun" midday news service.
- 1.0: Studio music.
- 1.30: Talk to children and special enter-
tainment for children in hospital.
- 2.0: G.P.O. clock and chimes. Close down.
Note.—Race results from Ascot ponies will
be broadcast by courtesy of the "Sun"
Newspapers.

AFTERNOON SESSION.

Announcer: Basil Kirke.

Accompanist: Kathleen Roe.

- 3.45 p.m.: G.P.O. clock and chimes.
Studio music.
- 4.0: Capt. Fred. Aarons—
"Pheidias, the Sculptor."
- 4.20: Romano's Dance Orchestra, conducted
by Bennie Abrahams.
- 4.30: John McCardell, elocutionist—
(a) "The Cynic."
(b) "Jim Bludso" (Anon.).
- 4.37: Romano's Dance Orchestra, conducted
by Bennie Abrahams.
- 4.45: Ruth Vincent, mezzo—
(a) "I Hear a Thrush at Eve" (Wakefield)
(b) "Mighty Lak a Rose" (Nevin).
- 4.52: "Sun" news service.
- 5.0: G.P.O. clock and chimes.
Kathleen Roe, pianist.
- 5.10: "Sun" news service.
- 6.17: Studio music.
- 6.37: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: J. Knight Barnett.

- 6.40 p.m.: Children's music and entertain-
ment.
- 6.0: Children's letters and stories.

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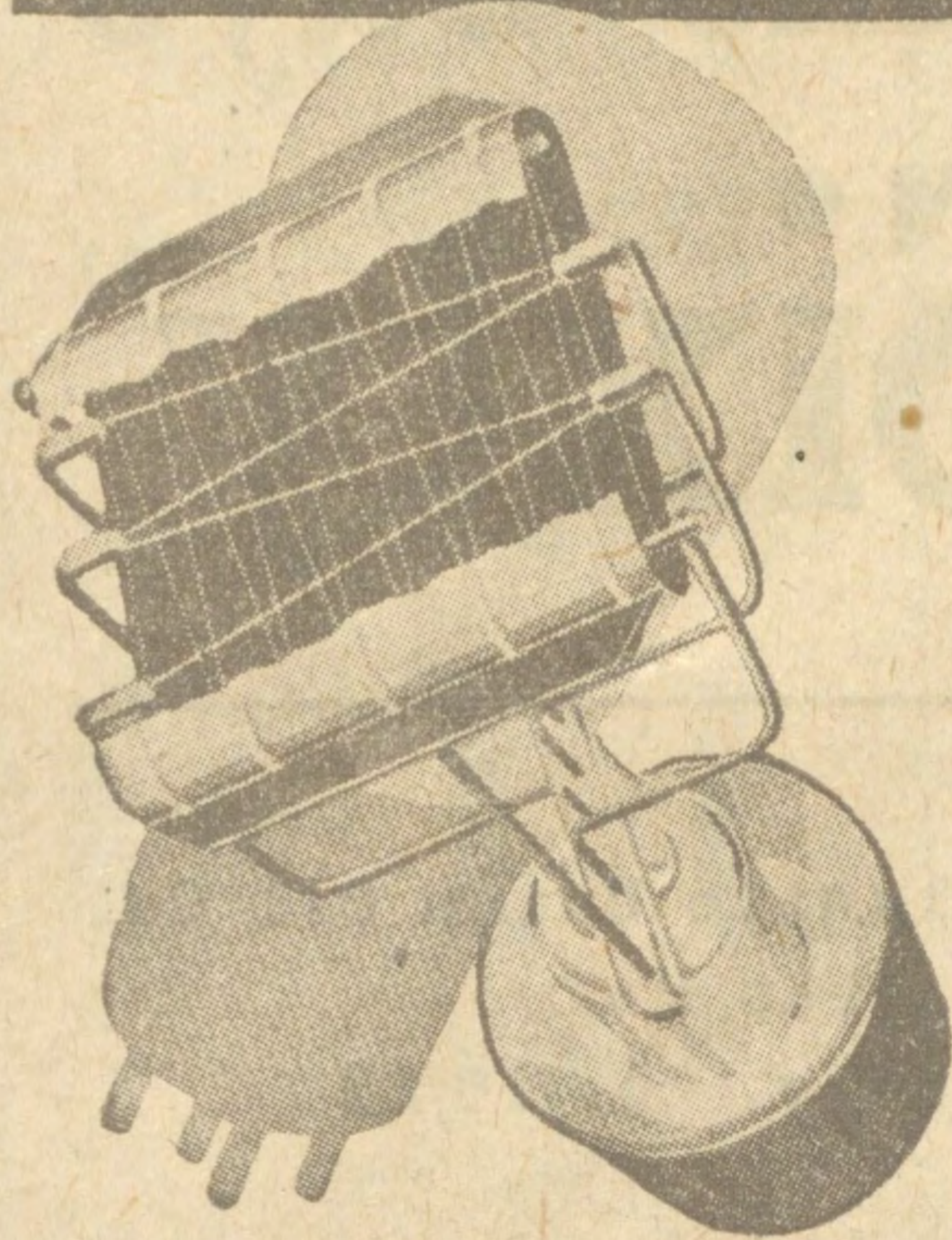
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- 6.30: "Sun" news and late sporting.
 6.40: 2BL Dinner Quartette—
 (a) "Little Damask Rose" (Walton).
 (b) "Gold and Silver" (Lehar).
 (c) "Intermezzo" (Arensky).
 (d) "H.M.S. Pinafore" (Sullivan).
 (e) "Hymn to the Sun" (Rimsky-Korsakoff).
 (f) "Lonesome in the Moonlight" (Baer).
 7.10: 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: Mr. Pim and Miss Pam, in advertising talks and nonsense.
 7.55: Programme and other announcements.

EVENING SESSION.

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

- 8 p.m.: G.P.O. clock and chimes.
 2BL Topical Chorus.
 8.3: From Rose Bay Wintergarden Theatre. The Wintergarden Theatre Orchestra, under the conductorship of Lionel Hart.
 8.15: From the Studio—
 Dagmar Roberts, pianist—
 (a) "Andantino" (Schubert).
 (b) "Moment Musical in F Minor" (Schubert).
 8.22: Montgomery Stuart and Myra Leard, sketch, "Packing Up."
 8.32: Josef Kaartinen, saxophonist.
 8.39: Dagmar Roberts, pianist—
 "Marche Militaire" (Schubert-Tausig).
 8.46: Montgomery Stuart and Players, sketch, "Two Hundred Damages."
 Montgomery Stuart, Joe Donnelly, and Lillian Bauer.
 8.56: Josef Kaartinen, saxophonist.
 9.3: Harry Graham's Snapshot Revue—
 An introductory snapshot, "The Opening Chorus."
 A concerted snapshot, "Most Unusual Weather."
 A talkative snapshot, "Betting a Fiver."
 A vocal snapshot, "Mr. Moon."
 A sketchy snapshot, "Reggie Interviews the Manager."
 A concerted snapshot, "Oh, Jack."
 A sketchy snapshot, "Listening In."
 A humorous snapshot, "The Four Crows."
 A vocal snapshot (duet), "Just 'Cos I Love."
 A sketchy snapshot, "Starting Housekeeping."
 A concerted snapshot, "Military Mary."
 A concluding snapshot, "Good-night."
 10.3: Claude Corbett, sports talk.
 10.15: From the Rose Bay Wintergarden Theatre—The Wintergarden Theatre Orchestra, under the conductorship of Lionel Hart.
 10.30: From the Studio—
 Art Leonard, in popular songs.
 10.37: The Savoyans Dance Band.
 10.57: Resume of following day's programme
 10.59: The Savoyans Dance Band, with popular choruses by Art Leonard.
 11.30: Close down.

2GB, SYDNEY

Wednesday, December 12

- 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 Miss Lorraine Lincey. 8.30 p.m.: Cello solos by Mr. Cedric Ashton. 8.40 p.m.: Songs by Signor Mario Gustino. 9.0 p.m.: Weather report and address. 9.15 p.m.: Violin solos by Mr. Cecil Berry. 9.25 p.m.: Songs by Miss Lorraine Lincey. 9.35 p.m.: 2GB Instrumental Trio. 9.45 p.m.: Songs by Signor Mario Gustino. 9.50 p.m.: Pianoforte solos by Miss Ada Brook. 10.5 p.m.: Orchestral music. 10.30 p.m.: Close down.

2UW, SYDNEY

Wednesday, December 12

MIDDAY SESSION.

- 12.30 p.m.: To-day's anniversary. 12.32: Music. 1.0: G.P.O. clock and chimes. 1.1: Music. 2.0: Talks to women. 2.15: "Cheerio talk." 2.30: Close down. 4.30: Musical programme.

EVENING SESSION.

- 5.30 p.m.: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. 7.1: Music. 7.10: News item. 7.30: Musical interlude. 7.35: Talk on Music. 8.0: G.P.O. clock and chimes. 8.1: Music. 9.0: G.P.O. clock and chimes. 9.1: Comments on foreign affairs by Mr. J. M. Prentice. 9.10: Music and request.

3LO, MELBOURNE

Wednesday, December 12

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: Maurice Dudley.

- 10.50 a.m.: Eric Welch's selections for Kyneton races. 11.0 a.m.: 3LO's different dainties for the daily dinner; to-day's radio recipe, steak suffed with oysters. 11.15 a.m.: Miss I. D. Beaven, "Home-made Confectionery." 11.20 a.m.: Musical interlude. 11.25 a.m.: Mrs. M. Callaway Mahood, "Color in Decoration." 11.40 a.m.: Musical interlude. 11.45 a.m.: Mrs. Clarence Weber, physical culture expert, "Physical Culture for Women."

MIDDAY SESSION.

Announcer: Maurice Dudley.

- 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.: Johnston's Studio Boys, march "The Challenge." overture "Lustspiel." 12.30 p.m.: Myrtle Walscott, contralto, "Beloved It Is Morn" (Aylward), "Somewhere a Voice is Calling" (Tate). 12.37 p.m.: Stock Exchange information. 12.40 p.m.: Johnston's Studio Boys, selection, "The Poacher." 12.50 p.m.: J. Norris, baritone, "Jenny's Way" (Willeby), "The Romany Road" (Dickson). 12.57 p.m.: Johnston's Studio Boys, "Simple Aven." 1.4 p.m.: Myrtle Walscott, contralto, "A Summer Night" (Goring Thomas), "A Memory" (Maude White). 1.11 p.m.: Meteorological information; weather forecast for Victoria, South Australia, New South Wales, and Tasmania; ocean forecasts; river reports; rainfall. 1.17 p.m.: J. Norris, baritone, "Glorious Devon" (German), "Maire, My Girl" (Aitken). 1.24 p.m.: Johnston's Studio Boys, "Sea-ta's Ballade," from "The Flying Dutchman" (Wagner). 1.30 p.m.: Transmission from the Freemason's Hall, Collins Street, Melbourne; speeches from the Rotary Club luncheon. 2.0 p.m.: Close down.

AFTERNOON SESSION.

Announcer: Maurice Dudley.

Accompanist: Agnes Fortune.

- 2.15 p.m.: The Station Orchestra, suite, "Les Beaux" (Fanchey). 2.25 p.m.: Ida Walker, contralto, "Thou Art Risen, My Beloved" (Coleridge-Taylor), "Pleading." 2.32 p.m.: The Station Orchestra, selection from "The Pearl Fishers" (Bizet). 2.42 p.m.: Joseph Barrille and Tasma Tiernan, flute and cello, "Nocturne" (Fleischmann). 2.47: James Riley, tenor, "The Trumpeter" (Dix), "Jeunesse" (Barry). 2.54 p.m.: The Station Orchestra, selection from "Carmen" (Bizet). 3.4 p.m.: J. Norris, baritone, "The Fishermen of England" (Montague Phillips), "All Joy Be Thine" (Sanderson). 3.11 p.m.: A. Anderson, clarinet, "Un Reve" (Dela-fosse). 3.15 p.m.: The Station Orchestra, "Reverie" (Schutt). 3.25 p.m.: Mollie Warden, soprano, "My Mother Bids Me Bind My Hair" (Haydn), "A Blackbird Singing" (Head). 3.32 p.m.: The Station

Orchestra, "Three Songs" (Brahms), "Air de Ballet" (Borsch), 3.40 p.m.: Bertha Jorgensen, violin, "An Old Refrain" (Kreisler), "Midnight Bells," 3.47: Ida Walker, contralto, "Ships That Pass in the Night" (Stephenson), "A Little Coon's Prayer" (Hope), 3.54 p.m.: The Station Orchestra, "Melancholie" (Grainger), "Canzonetta" (Hammer), 4.0 p.m.: James Riley, tenor, "She is Far From the Land" (Lambert), "A Sprig of Boronia" (Hull), 4.7 p.m.: Agnes Fortune, piano, "Barcarolle" (Rubenstein), 4.14 p.m.: J. Norris, baritone, "An Interlude" (Easthope Martin), "Fairlings" (Easthope Martin), "The Old Shepherd's Song" (Howard Fisher), 4.21 p.m.: The Station Orchestra, "Fantasie Ballet" (Pares), 4.31 p.m.: Mollie Warden, soprano, "Voi Che Sape-te" (Mozart), "Pierrot" (Rybner), 4.38 p.m.: The Station Orchestra, selection, "Zaza" (Leoncavallo), selected, 5.0 p.m.: "Herald" news service; Stock Exchange information, 5.10 p.m.: Close down. During the afternoon results of the Kyneton races will be given as they come to hand.

EVENING SESSION.

Announcer: Maurice Dudley.

6.0 p.m.: Answers to letters and birthday greetings by "Mary, Mary." 6.25 p.m.: Musical interlude. 6.30 p.m.: "Mary, Mary" will tell a nonsense tale, "The Gingerbread Man." 6.45 p.m.: Captain Donald Maclean, "More Adventure Stories."

NIGHT SESSION.

Announcer: C. J. O'Connor.

Accompanist: Agnes Fortune.

7.5 p.m.: Stock Exchange information.
7.15 p.m.: Market reports by John M'Namara and Co.; official report of the Newmarket stock and station agents, Bourke Street, Melbourne; fish market reports by J. R. Borrett, Ltd.; rabbit prices; market reports by the Victorian Producers' Co-operative Co., Ltd.; poultry, grain, hay, straw, dairy produce, potatoes, and onions; market reports of fruit by the Associated Fruit-growers' 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.
7.45 p.m.: "Out of the Past."
7.48 p.m.: Under the auspices of the Department of Agriculture, R. Crowe, exports superintendent, will speak on "Marketing Methods."
8.0 p.m.: "A Maker of History."
8.1 p.m.: R. H. Campbell will speak on "Cricket."
8.10 p.m.: Coburg City Band.
March, "King of the Air" (Hurley).
March, "Deeds of Daring" (Rimmer).
8.17 p.m.: Ida Walker, contralto.
"A Soft Day" (Stanford).
"Easter Carol" (Martin Shaw).
8.24 p.m.: Coburg City Band.
Fantasia, "Rustic Gala" (Allen).
8.31 p.m.: Mona Nugent, soprano.
"The Crying of the Water" (Campbell Tipton).
"Tell Me" (Kjerulf).
8.38 p.m.: Victor Stephenson, piano.
"Menuetto B Minor" (Schubert).
"Moment Musicale in A Flat" (Schubert).
"Hark, Hark, the Lark" (Schubert-Liszt).
"Scherzo G Minor" (Schumann).
8.53 p.m.: Croydon Musical Society.
"Strike the Lyre" (Cooke).
"Bells of St. Michael's Tower" (Sir R. H. Stewart).
"Gipsies' Laughing Trio" (Glover).
"The Parting Kiss" (Pinsuti).
"Soldiers' Chorus" (Gounod).
9.23 p.m.: Coburg City Band.
Waltz, "Senta" (Raymond).
9.27 p.m.: J. Alexander Browne, baritone.
"The Carpet" (Sanderson).
"Within the Garden of Your Heart" (Scott).
9.44 p.m.: Coburg City Band.
March, "On Tour" (White).
10.5 p.m.: Mona Nugent, soprano.
"Evensong" (Kjerulf).
"Passing By" (Purcell).
10.12 p.m.: "Argus" news service; British Official Wireless news from Rugby; meteorological information.
10.22 p.m.: J. Alexander Browne, baritone.
"The Farmer's Pride" (Kennedy Russell).
"As You Pass By" (Russell).
10.29 p.m.: Coburg City Band.
Selection, "Lurline" (Wallace).
10.43 p.m.: The Radi-o-Aces.
"Googily Goo" (Davis).
"Adoree" (West).
"That Stolen Melody" (Fisher).
"Chloe" (Kahn).
"I'm Tired of Making Believe" (Kelley).
11.0 p.m.: Our Great Thought.
11.1 p.m.: The Radi-o-Aces.
"That's What You Mean to Me" (Davis).
"Chips"—piano solo (Masman).
"Just Like a Melody Out of the Sky" (Donaldson).



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Missing Links

When Darwin first looked at a caged monkey a bystander remarked on the resemblance. The angry scientist, being human, avenged himself by trying to prove that all men came from Monkeys!

One of his trump cards was the fact that the last bone in our spinal columns—reading downwards from the neck—was Nature's provision for wagging a tail. Ever since scientists have been searching for the Missing Link—a man with a tail. The universal use of trousers has baffled research.

The clash between religion and science is due to the eagerness of the one to find a missing link with the angels, while the other is concentrating downwards on tails!

We are all sensitive on chance resemblances. Personally, I broke an umbrella on an angry taxi-driver who suggested that if I was on all fours a mother hippopotamus would bleat fondly at a lost offspring.

It took three men to separate an ugly friend from the ferry clerk who asked in all innocence if he required a return ticket when booking for the Sydney Zoo.

The missing link theory should not be confined to apes. Almost any crowd will contain barking imitations of a St. Bernard, a Pekin Poodle, and German Sausage Dog. Probably there will be two Skunks, a Giraffe, and a Jersey Cow in the collection.

Our talk on tails brings to mind the invaluable Acme Socket Power, which uses a long tail to run any radio set. The point of the tail goes into a power or light socket, and the whole electrical energy of a city is turned into wireless music.

This long-tailed product of New Sydney Telephones Pty., Ltd., has its birthplace at 280 Castlereagh Street, Sydney, and eliminates "B" batteries, crackles, cost, and, cussing.

If Darwin had seen an Acme talking, he would have spent his life showing that our original ancestor was a socket power which lived in the Garden of Eden and ate apples.

Fortunately, Darwin is now working out problems on a higher plane.—*

"Beloved" (Kahn).
 "Because My Baby Don't Mean Maybe Now" (Donaldson).
 "Mother of Mine" (Jolson).
 "Rain" (Wayne).
 "Ramona" (Wayne).
 "Clarinet Marmalade" (Fergus).
 Slumber music—
 "Good-night Waltz" (Bibo).
 11.40 p.m.: God Save the King.

3AR, MELBOURNE

Wednesday, December 12

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: John Stuart.

Accompanist: Reg. Brown.

11 a.m.: Radi-o-Aces, "Rain" (Ford), "Mine, All Mine" (Ruby), "Dolores" (Kassell), "Down Where the Sun Goes Down" (Jones), "Don't Keep Me in the Dark" (Bryan), "All Day Long" (Cross). 11.30 a.m.: Eric Mason Wood, baritone, "O Flower of All the World" (Lehmann), "Border Ballad" (Cowen). 11.37 a.m.: Radi-o-Aces, "Happy Go Lucky Lane" (Lewis), "Little Log Cabin of Dreams" (Hanley), "Virginia Creeper" (Wade), "Can't You Hear Me Say I Love You" (Brown), "Dream Kisses" (Yellen), "Without You, Sweetheart" (De Silva). 12 noon: Bessie Banks, soprano, "Sing, Joyous Bird" (Phillips), "It Is Only a Tiny Garden" (Wood). 12.7 p.m.: Radi-o-Aces, "Lollita" (Stoneham), "After My Laughter Comes Tears" (Tobias), "Beautiful" (Sharp), "That's My Mammy" (Donaldson), "Tell Me Again" (Clark), "Together" (Brown). 12.27 p.m.: British official wireless; announcements. 12.37 p.m.: Eric Mason Wood, baritone, "Sigh No More" (Alken), "Wimmin O' Wimmin" (Russell). 12.44 p.m.: Radi-o-Aces, "The Dance of the Blue Danube" (Fisher), "The Riff Song" (Romberg), "Chinatown" (Yvain), "What Was I to Do" (Reid), "Next to you, I like me next to you," "Shake It Down" (Williams). 1.4 p.m.: Bessie Banks, soprano, "I Love the Moon" (Paul Rubens), "Vale" (Kennedy Russell). 1.11 p.m.: Radi-o-Aces, "Lonely Acres" (Robinson), "Anything You Say" (Donaldson), "In a Bamboo Garden" (Donaldson), "Sweet Sue, Just Sue" (Tobias), "Too Busy" (Miller), "Tired Hands" (Woods). 1.30 p.m.: Close down.

EVENING SESSION.

Announcer: Frank Hatherley

6 p.m.: A recital by absent artists.

NIGHT SESSION.

Announcer: Frank Hatherley.

Accompanist: Reg. Brown.

8 p.m.: P. W. Pearce, physical culture talk: "Does Your Engine Knock." 8.15 p.m.: Under the auspices of the Boy Scouts' Association, W. D. Kennedy, "The Romantic in Scouting." 8.30 p.m.: Station Orchestra, "Fantasie Ballet" (Pares), "Extase" (Ganne). 8.45 p.m.: James Hay, tenor (by permission J. C. Williamson, Ltd.), selected items. 8.52 p.m.: Station Orchestra, "Largo," from New World's Symphony (Dvorak), "My Abode" (Schubert). 9 p.m.: James Hay, tenor, selected. 9.7 p.m.: Tasma Tiernan, cello, serenade, "Espagnol" (Glazanow). 9.12 p.m.: Professor R. J. A. Berry, "The Solid South and the Klu Klux Klan." 9.27 p.m.: Station Orchestra, "Allegretto from Sonata No. 2" (Grieg), "Polonaise" (Chopin). 9.37 p.m.: Bessie Banks, soprano, "The Valley of Laughter" (Bowles), "Rose in the Bud" (D. Forster). 9.44 p.m.: The Victorian Railways Institute Dramatic Society, under the direction of Winifred Moverley, presents one-act play, "Concerning Husbands," by Ferencz Molnar. Cast: A famous actress, Alice Best; a timid wife, Marjory McLeod.

10 p.m.: Station Orchestra, "A Children's Suite" (Ansell). 10.8 p.m.: Bessie Banks, soprano, "When the Yellow Kowhai Blooms," "Hinemoa's Love Song" (James). 10.15 p.m.: Station Orchestra, suite, "A Kiss for Cinderella" (Bucalossi). 10.25 p.m.: "Age" news service, exclusive to 3AR. 10.28 p.m.: Weather forecast. 10.29 p.m.: Our Australian good-night quote. 10.30 p.m.: God Save the King.

4QG, BRISBANE

Wednesday, December 12

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.: A talk on "Artistic Uses of Sealing Wax and Crepe Paper," by "Denise." 11.30 a.m.: Music. 11.35 a.m.: More social news. 11.45 a.m.: Music. 12.0 noon: Close down.

MID-DAY SESSION.

Announcer: R. Wight.

1.0 p.m.: Market reports and weather information. 1.15 p.m.: From the G.P.O., the Postal Institute Orchestra. 2.0 p.m.: Close down.

AFTERNOON SESSION.

2.0 p.m.: From the studio, a programme of electrically reproduced records. 3.30 p.m.: Mail train running times. 3.31 p.m.: From St. John's Cathedral, a recital by Mr. George Sampson, F.R.C.O. (City Organist). 4.0 p.m.: From the studio, afternoon news. 4.30 p.m.: Close down.

EARLY EVENING SESSION.

Announcers: R. Wight and H. Humphreys. 6.0 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 "Little Miss Brisbane." 7.0 p.m.: News in brief. 7.5 p.m.: Stock Exchange news. 7.6 p.m.: Metal quotations. 7.7 p.m.: Market reports. 7.25 p.m.: Fenwick's stock report. 7.30 p.m.: Weather information. 7.40 p.m.: Announcements. 7.43 p.m.: Standard time signals. 7.45 p.m.: Lecturette, "The Home Beautiful," by E. J. Chilton.

NIGHT SESSION.

8.0 p.m.: Alf Featherstone and his Orchestra "Hullo Montreal" (Rose), "Gee, I'm Glad I'm Home" (Rose), Dulcie Sampson (pianiste), selected numbers. Alf Featherstone and his Orchestra—"Rain" (Ford), "Lovely Little Silhouette" (Rose). Rhoda G. Husband (soprano)—"Bird of Love Divine" (Wood), "There's Sunlight in Your Eyes" (Harling). Alf Featherstone and his Orchestra—Jazz-waltz, "Love Days" (Hamy). Harry Collins and the Orchestra in ten minutes' entertainment. Alf Featherstone and his Orchestra—Rhythmic paraphrase, "Tannhauser" (arr. Lange). Fox-trot, "Mother Goose Parade" (Boran). 9.0 p.m.: Movements of Lighthouse steamers, Edna Ryan (violiniste)—"Harlequinade" (Walenn), "Valse" (D'Ambrosio). Alf Featherstone and his Orchestra—Fox-trot, "Sunshine" (Berlin); fox-trot, "Without You, Sweetheart" (Snyder). The Aloha Novelty Trio in selected numbers. Alf Featherstone and his Orchestra—Jazz-waltz, "Love Nights in Hawaii" (Smoley). Will H. Lister—a Thought for To-night—"Sympathy." Alf Featherstone and his Orchestra—Fox-trot, "Rain" (Ford), Rox-trot, "So Long" (Miller). The Aloha Novelty Trio in selected numbers.

10.0 p.m.: "The Daily Mail" news, "The Courier" news, weather news.
10.15 p.m.: Alf Featherstone and his Orchestra—three-quarters of an hour's dance music.
11.0 p.m.: Close down.

5CL, ADELAIDE

Wednesday, December 12

6WF, PERTH

Wednesday, December 12

12.30 p.m.: Tune in. 12.35 p.m.: Markets, news, and cables. 1 p.m.: Time signal. 1.1: Weather notes, supplied by the Meteorological Bureau of West Australia. 1.2 p.m.: Studio Quintette, conducted by Mr. Val Smith. 2 p.m.: Close down. 3.30 p.m.: Tune in. 3.35 p.m.: Afternoon tea concert, relayed from the Rosebud Cafe, Perth. Vocal and instrumental interludes from the studio. 4.30 p.m.: Close down. 6.45 p.m.: Tune in. 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.: Musical programme. 7.15 p.m.: Talk: "First Aid," by Dr. Winifred Holloway, of London. 7.30 p.m.: Markets, news, and cables. 7.45 p.m.: Talk: "Stock Diseases," by Lieut.-Col. Le Souef, 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: VARIETY NIGHT. Musical programme, including vocal and instrumental artists. 9 p.m.: Late news items, by courtesy of the "Daily News" Newspaper Co.; ships with-in range announcement; weather report and forecast; station announcements. 10.30 p.m.: Close down.

104.5 METRE TRANSMISSION.

Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL, HOBART

Wednesday, December 12

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 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.: His Master's Voice in Moments Merry and Musical. 12.11 p.m.: British Official Wireless. 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: His Master's Voice in Moments Merry and Musical. 1.30: Transmission from the Imperial Hotel, Collins Street, Hobart, speeches at the Rotary Club Luncheon. 2 p.m.: Close down.

AFTERNOON SESSION.

Announcer: Jack Broadbent.

3 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. 4.15: E. Mary Rowlands, supervisor of the Hobart Free Kindergarten School, will speak on "Child Training." 4.30: Close down.

EARLY EVENING SESSION.

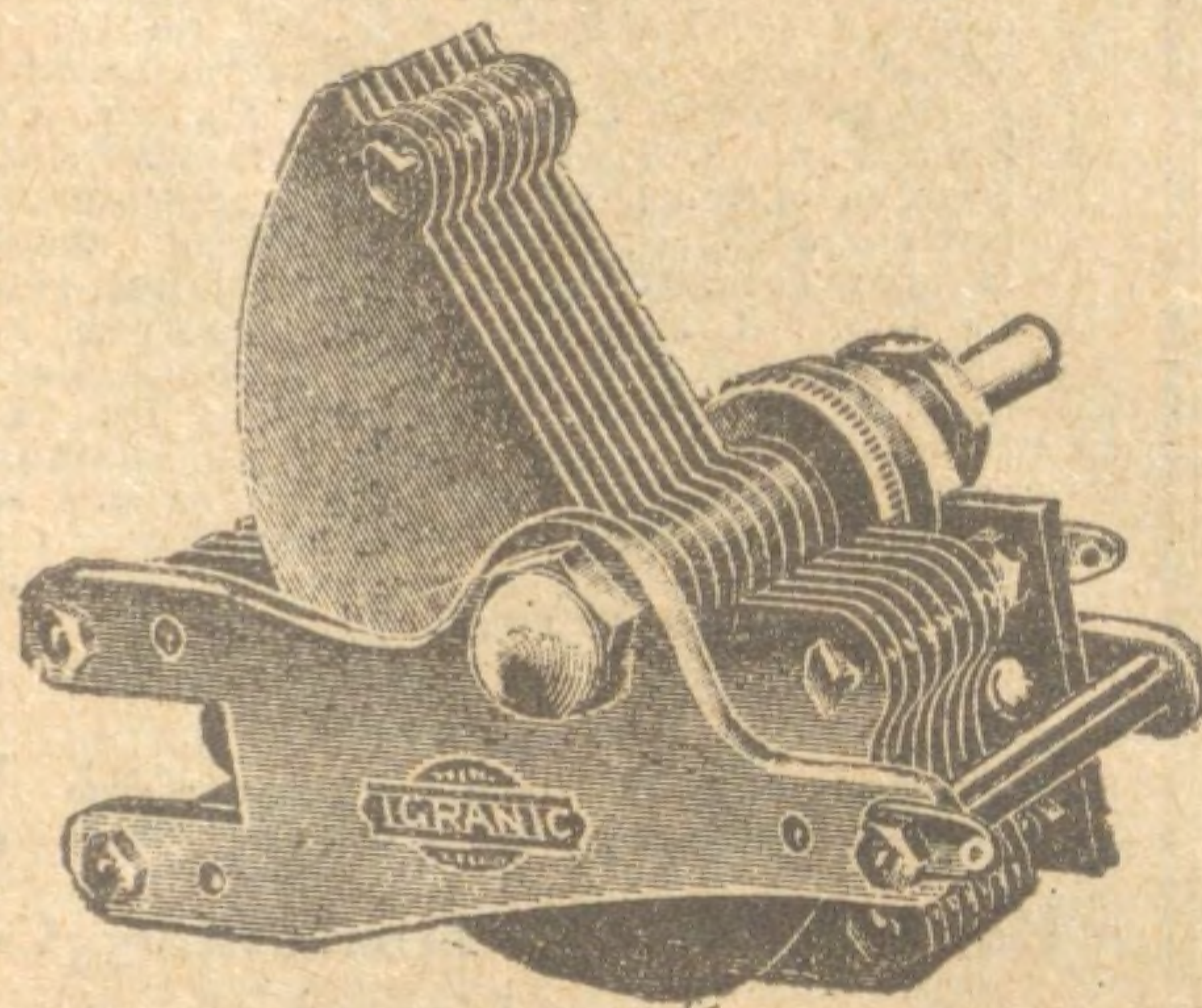
Announcer: Jack Broadbent.

6.15 p.m.: Transmission from the Beaumaris Zoo, Hobart, "The Parrots will speak to the children." 6.45 p.m.: Bertha Southey Brammall will tell the children a Tasmanian fairy tale: "The Egg Urchin" (First Part). One morning the writer witnessed the consternation of an elderly white hen when she discovered that the sole result of her patient sitting upon 13 eggs was—a turkey! 6.55 p.m.: Answers

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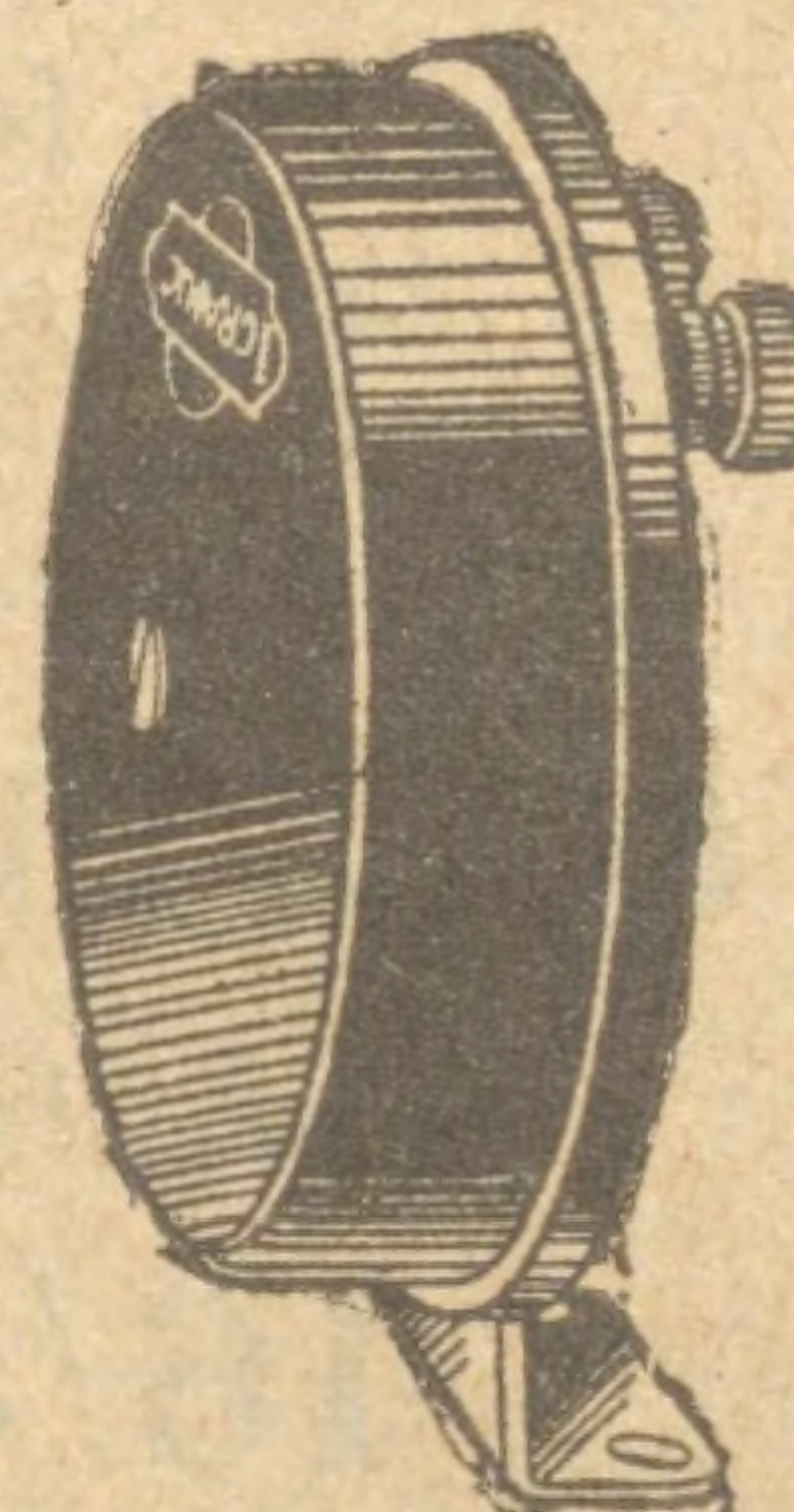
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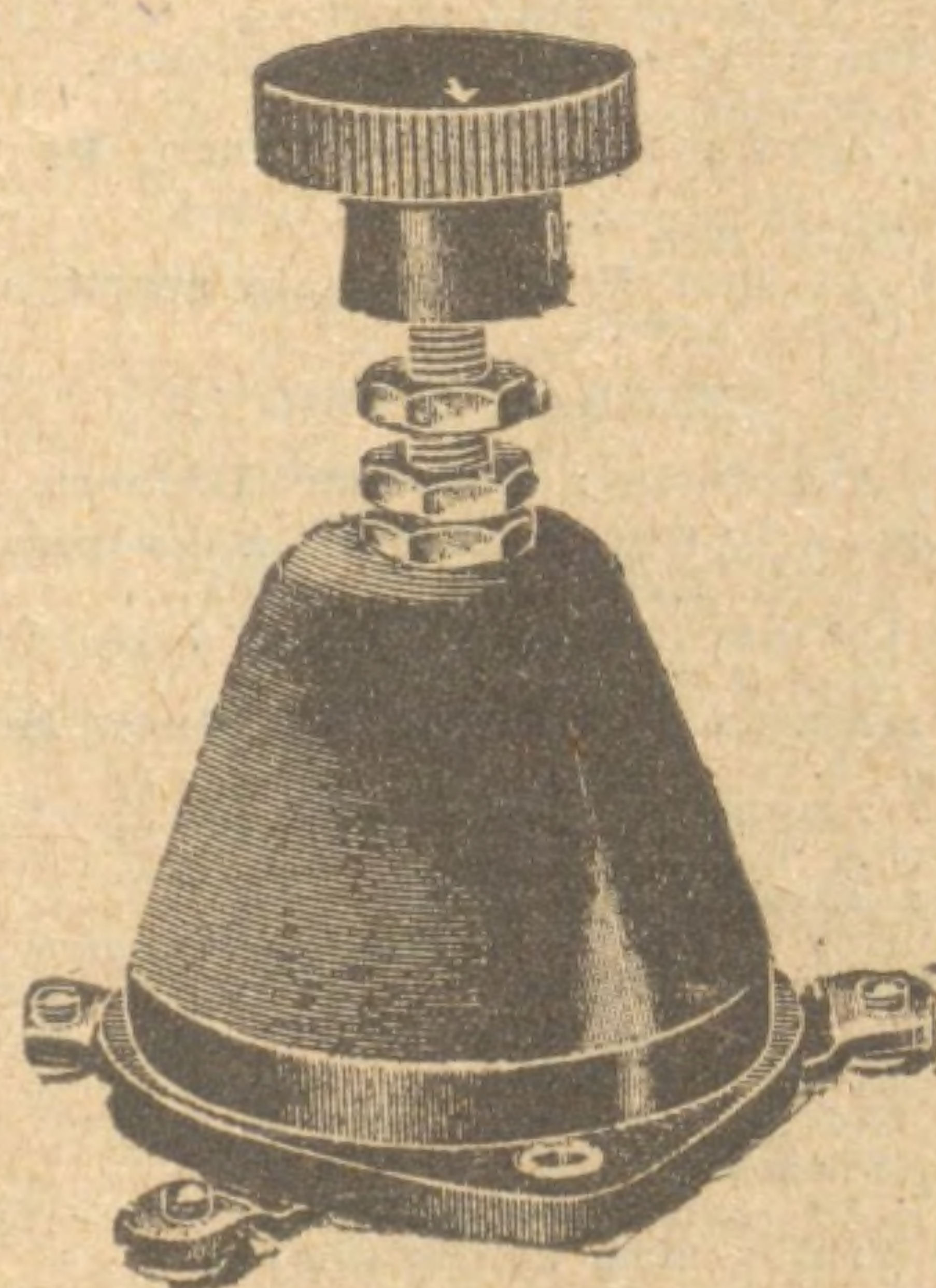
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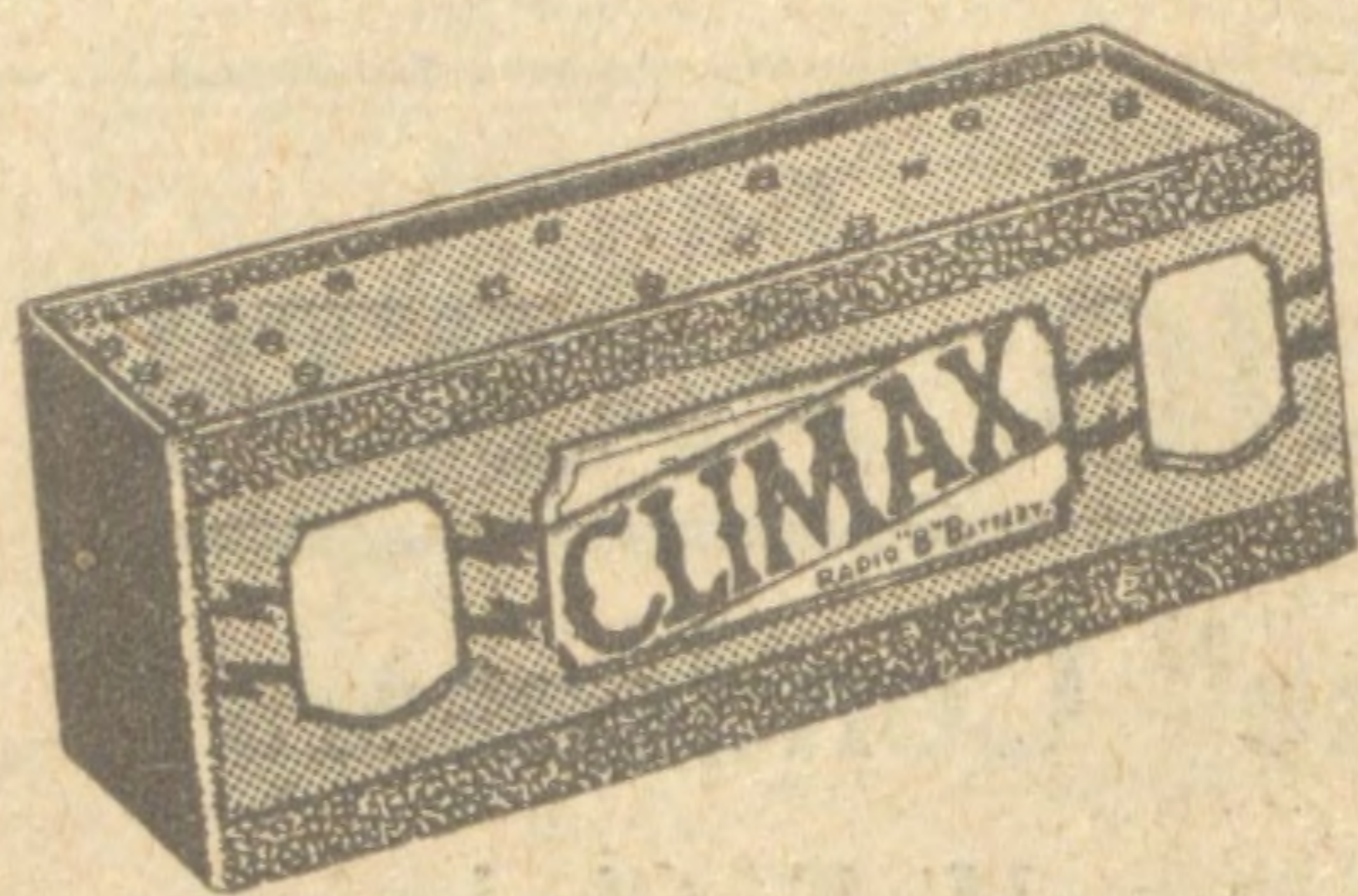
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to letters and birthday greeting by "Uncle David." 7 p.m.: His Master's Voice in Moments Merry and Musical. 7.15 p.m.: "Mercury" special news service; railway auction produce sales; weather information; Hobart Stock Exchange quotations; results of ladies' golf.

EVENING SESSION.

Announcer: J. M. Counsel.

7.30 p.m.: Geo. Nation will speak on "A Chat on Roses." 7.45 p.m.: Major H. Trousselot, superintendent of the Hobart Fire Brigade, will speak on "Fire Fighting in the War Area." 8 p.m.: G.P.O. clock chimes the hour. 8.1: Fifty Years Ago Today. 8.6: Recital of Instrumental and Vocal items by leading International Artists specially arranged by Messrs. Findlays Pty., Ltd. 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: The Royal Autocar Club of Tasmania safety message for to-day is: "Look before you leap." 10.2: Our Tasmanian Good Night Thought is: "There are tears in the affair of this life, and human sufferings touch the heart." 10.3: God Save the King. 10.4: Close down.

Thursday, December 13

New South Wales Broadcasting Company Limited.

2FC SERVICE

EARLY MORNING SESSION.

Announcer: Laurence Halbert.

7 a.m.: "Big Ben" and announcements. 7.2: Official weather forecast; rainfall; river reports; temperatures; astronomical memoranda. 7.5: "Sydney Morning Herald" summary. 7.10: Shipping intelligence; mail services. 7.12: Studio music. 7.22: Investment market; mining sharemarkets; metal quotations. 7.26: Wool sales; breadstuffs markets; interstate markets; produce markets. 7.35: Studio music. 8.0: "Big Ben." Close down.

MORNING SESSION.

Announcer: Laurence Halbert.

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

MIDDAY SESSION.

Announcer: Laurence Halbert.

12.0 noon: "Big Ben" and announcements. 12.1: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Studio music. 12.10: Summary of news, "Sydney Morning Herald." 12.15: Rugby wireless news. 12.18: A reading. 12.30: Studio music. 1.0: "Big Ben." Weather intelligence. 1.3: "Evening News" midday news service. Producers' Distributing Society's report. 1.20: Studio music. 1.28: Stock Exchange, second call. 1.30: Studio music. 1.50: Last-minute sporting information, by the 2FC racing commissioner. 2.0: "Big Ben." Close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

2.30 p.m.: Programme announcements. 2.32: Educational session for the schools. 2.45: Dorothea Vautier—"Legends of Old Japan." 3.0: "Big Ben." Pianoforte reproduction. 3.15: Phillipa Alston, contralto. 3.22: Ewart Chapple, organ solos. 3.22: From the Wentworth—The Wentworth Cafe Dance Orchestra, under the direction of Mr. Jimmy Elkins. 5.45: From the Studio—A reading. 4.0: "Big Ben." Phillipa Alston, contralto. 4.7: Popular music. 4.17: Ewart Chapple, organ solos.

4.22: Gwen Gillard, mezzo. 4.39: From the Wentworth—The Wentworth Cafe Dance Orchestra, under the direction of Mr. Jimmy Elkins. 4.45: From the Studio—Stock Exchange, third call. 4.47: Popular music. 5.0: "Big Ben." Close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40 p.m.: The chimes of 2FC. 5.45: The "Hello Man" conducts the children's session. Letters and stories. Music and entertainment, dora." and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange report. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben." Late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats—(a) "Polish Dance" (Scharwenka). (b) "Reverie" (Macdowell). (c) "Rozsika" (Roberts). (d) "The Pirates of Penzance" (Sullivan). (e) "Kashmiri Song" (Woodforde-Finden). (f) "Little Log Cabin" (Dowling).

EVENING SESSION.

Announcer: A. S. Cochrane.

Accompanist: Ewart Chapple.

7.40 p.m.: Programme announcements. 7.45: Pianoforte reproduction. 7.53: Popular Studio music. 7.59: Foreword to the next item. 8.0: "Big Ben." From the Capitol Theatre—Ted Kenkel's Stage Band and Fred Scholl at the Wurlitzer organ. 8.20: From the Studio—Alfred Cunningham, baritone. 8.27: Arthur Stender, Australian champion cornetist, late of the Commonwealth Band. 8.34: Gerald and Gertrude, entertainers. 8.44: Margaret James, soprano. 8.51: Lindley Evans, pianoforte recital—(a) "Arabesque" (Debussy). (b) "Meloxy in E" (Rachmaninoff). (c) "Polichinelle" (Rachmaninoff). 9.1: Weather report. 9.2: Alfred Cunningham, baritone. 9.10: From the Capitol Theatre—Stage presentation. 9.30: From the Studio—Margaret James soprano. 9.37: Lindley Evans, pianoforte solos—(a) "Watteau Paysage" (Godowski). (b) "Automne" (Chaminade). (c) "Shadow Dance" (Macdowell). 9.52: Freda Sternberg—Snapshots from different parts of the world. 10.2: Arthur Stender, cornet solos. 10.9: Gerald and Gertrude. 10.19: Len Maurice, popular vocalist. 10.26: Late weather report. 10.28: From the Hotel Australia—Dance Band conducted by Cec. Morrison. 10.45: Len Maurice, popular vocalist. 10.52: To-morrow's programme. 10.55: From the Hotel Australia—Dance Band conducted by Cec. Morrison. 11.30: National Anthem. Close.

2BL SERVICE

Thursday, December 13

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 service 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.

Announcer, Basil Kirke.

11.0 a.m.: G.P.O. clock and chimes. 2BL Women's Sports Association Session, conducted by Miss Gwen Varley. 11.30 a.m.: Advertising hints. 11.40 a.m.: Women's Session, conducted by Mrs. Cranfield.

- 12.0 noon: G.P.O. clock and chimes.
Special ocean forecast and weather report.
12.3 p.m.: Studio music.
12.30 p.m.: Shipping and mails.
12.35 p.m.: Market reports.
12.48 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. clock and chimes.
Studio music.
4.0 p.m.: Bunty Stuart, contralto.
(a) "Homing" (Teresa Del Riego).
(b) "Caller O'U" (John Gray).
4.7 p.m.: Basil Kirke.
"Wandering Thro' Coral Isles and Tropic Seas."
4.20 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
4.30 p.m.: Gwen Fane, soprano.
4.37 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
4.45 p.m.: Bunty Stuart, contralto.
(a) "The Carpet" (Sanderson).
(b) "Angus MacDonald" (Roeckel).
4.52 p.m.: "Sun" news service.
5.0 p.m.: G.P.O. clock and chimes.
Kathleen Roe, pianist.
5.7 p.m.: Gwen Fane, soprano.
5.14 p.m.: Kathleen Roe, pianist.
5.21 p.m.: Studio music.
5.37 p.m.: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer, Basil Kirke.

- 5.40 p.m.: Children's music and entertainment.
6.0 p.m.: Children's letters and stories.
Visits to strange and distant lands by "Hello Lizzie."

Announcer, J. Knight Barnett.

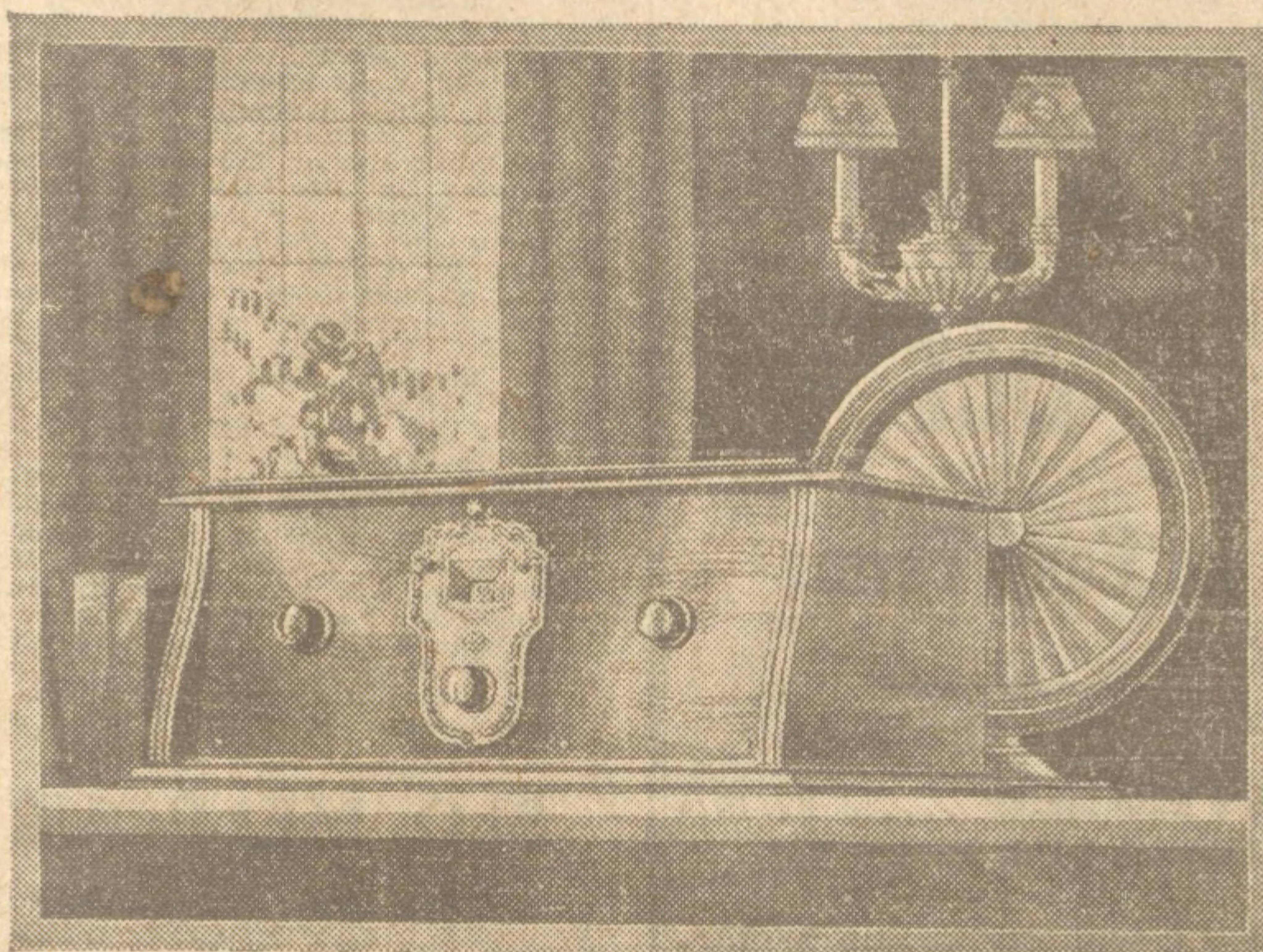
- 6.30 p.m.: "Sun" news and late sporting.
6.40 p.m.: 2BL Dinner Quartette.
(a) "Less Than the Dust" (Woodforde-Finden).
(b) "Orientale" (Cui).
(c) "Petite Suite de Concert" (Coleridge-Taylor).
(d) "Pirouette" (Finck).
(e) "The Prize Song" (Wagner).
(f) "Good News" (Henderson).
7.10 p.m.: Australian 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").
Dairy Produce report ("Sun").
7.25 p.m.: Mr. Pim and Miss Pam in advertising talks and nonsense.
7.55 p.m.: Programme and other announcements.

EVENING SESSION.

Announcer, J. Knight Barnett.

Accompanist, G. Vern Barnett.

- 8 p.m.: G.P.O. clock and chimes.
2BL Topical Chorus.
8.3 p.m.: The Bohemian Five.
"Songs Without Words" (Mendelssohn).
8.15 p.m.: Norman Wirght, tenor.
8.22 p.m.: Sketches by the Players of the Players' Club.
"Phipps" (Stanley Houghton).
8.37 p.m.: Poppy Pland and Peg Page in a popular pot-pourri.
8.45 p.m.: Charles Lawrence, entertainer.
(a) "Educated Girl."
(b) "Musical Speeches."
8.55 p.m.: Weather report and forecast.
8.57 p.m.: Yarns by a wanderer.
9.10 p.m.: Haagen Holenbergh, pianist.
"Scherzo in C Sharp Minor" (Chopin).
9.20 p.m.: Norman Wright, tenor.
9.27 p.m.: The Bohemian Five.
Ballet suite, "Coppelia" (Delibes).
9.35 p.m.: Sketch by the players of the Players' Club.
"The Man in the States" (Alfred Sutro).
9.50 p.m.: Haagen Holenbergh, pianist.
(a) "Intermezzo in E Flat Minor" (Brahms).
(b) "Serenade to the Moon" (Pugno).
(c) "Old Vienna" (Godowsky).
10.0 p.m.: G.P.O. clock and chimes.
Charles Lawrence, entertainer.
(a) "That Cat."
(b) "Setting the Village on Fire."
10.18 p.m.: The Bohemian Five.
"Les Cloches de Corneville" (Planquette).
10.28 p.m.: Resume of following day's programme.
10.30 p.m.: National Anthem.



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2GB, SYDNEY

Thursday, December 13

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 ses-
sion 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.: Flute solos by Mr. Les-
lie Sproule. 8.12 p.m.: Songs by Mr.
Cyril Huggett. 8.22 p.m.: Pianoforte
solos by Miss Jean Read. 8.32 p.m.:
Songs by Miss Ethel Hawley. 8.42 p.m.:
Violin solos by Mr. Lionel Hargreaves.
8.52 p.m.: Songs by Mr. Cyril Huggett.
9.0 p.m.: Weather report and address.
9.15 p.m.: Flute solos by Mr. Leslie
Sproule. 9.30 p.m.: Songs by Mr. Clement
Hosking. 9.40 p.m.: Pianoforte solos by
Miss Jean Read. 9.50 p.m.: Songs by Miss
Ethel Hawley. 10.0 p.m.: Violin solos by
Mr. Lionel Hargreaves. 10.10 p.m.: Orches-
tral music. 10.30 p.m.: Close down.

3LO, MELBOURNE

Thursday, December 13

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. 8.0 a.m.:
Morning melodies. 8.15 a.m.: Close down.

MORNING SESSION.

Announcer: Maurice Dudley.

11.0 a.m.: 3LO's Different Dainties for the
Daily Dinner. To-day's radio recipe:
Lemon sauce. 11.5 a.m.: Mrs. Austin
Gatehouse, vice-president of the Society
for Prevention of Cruelty to Children, will
speak on "The Work of the Society."
11.20 a.m.: Musical interlude. 11.25 a.m.:
Matron Moreland will speak on "Mother-
craft." 11.40 a.m.: Musical interlude.
11.45 a.m.: Mrs. Henrietta Walker, "The
Art of Being a Settler—Bushcrafts, Bas-
kets, and Mats."

MIDDAY 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; spe-
cial report by John M'Namara and Co.
12.20 p.m.: Community singing, old-time
choruses, transmitted from the Assembly
Hall, Collins Street, Melbourne (conduc-
tor, Frank Hatherly); Julia Russell, so-
prano, "Cherry Ripe" (Horn); Julia Rus-
sell and Vida Lugg, soprano and mezzo-
soprano, "Maying" (Smith), "Life's Dream
is O'er" (Asher). 1.45 p.m.: Stock Ex-
change information; meteorological infor-
mation; weather forecast for Victoria,
Tasmania, South Australia, and New
South Wales; ocean forecast, river reports.
1.55 p.m.: Close down.

AFTERNOON SESSION.

Announcer: Maurice Dudley.

Accompanist: Agnes Fortune.

2.15 p.m.: The Strad Trio (Cecil Parkes,
violin; May Broderick, piano; and Frank
Johnstone, cello), "Trio E Flat, No. 11"
(Haydn), Menuetto, Allegro Molto. 2.27
Ida Walker, mezzo-contralto, "A Ship of
My Desire" (Phillips), "The Little Coat
of Courage" (Heron Maxwell). 2.34 p.m.:
Cecil Parkes, violin, and May Broderick,
piano, "Sonata, Op. 12, No. 2, A Major"
(Beethoven), Andante più tosto, Allegro.
2.43 p.m.: Ida Walker, mezzo-contralto,
"My Heart's Desire" (Coningsby Clarke),
"Shut Your Little Drowsy Eye" (Sigurd
Lie). 2.50 p.m.: Frank Johnstone, cello,
"Andante Cantabile" (Tartini), "Menuett"
Becker). 2.57 p.m.: The Strad Trio,
"Suite, A Major" (Handel-Parkes), An-
dante allegro, Adagio Allegretto. 3.6 p.m.:
James Riley, tenor, "Irish Emigrant"
(Barker), "Believe Me If All" (Old Irish).
3.13 p.m.: The Strad Trio, "Folk Tune
and Fiddle Dance." Education Hour.
3.20 p.m.: J. Loftus Hills, "Topics of the
Week." 3.35 p.m.: Frances Fraser will
speak on "The Songs of the Hebrides"
(Marjory Kennedy Fraser), and Ella Rid-
dell will illustrate the talk with the fol-

lowing songs, "A Weaving Lilt," "The
Wild Swan," "The Troutling of the Sac-
red Well," "Land of Heart's Desire," "The
Reiving Ship." 4.5 p.m.: The Station
Orchestra, Allegretto from "Sonata, No.
2" (Greig), "Polonaise" (Chopin). 4.15
p.m.: Guildford Bishop, violin, first move-
ment "Concerto" (Franz Sietz). 4.22
p.m.: James Riley, tenor, "I Seek for Thee
in Every Flower" (Garz), "Serenata"
(Toselli). 4.29 p.m.: "Herald" news ser-
vice; Stock Exchange information. 4.45
p.m.: Evensong, transmitted from St.
Paul's Cathedral, Melbourne. From the
studio. 5.30 p.m.: Acceptances and bar-
rier positions for the Moonee Valley races.
5.35 p.m.: Close down. During the after-
noon results of the Mornington races will
be given as they come to hand.

EVENING SESSION.

Announcer: Maurice Dudley.

6.0 p.m.: Answers to letters and birthday
greetings by "Bobby Bluegum." 6.25
p.m.: Musical interlude. 6.30 p.m.:
"Bobby Bluegum" wants to know "Have
You Met Jinkie Yet?" 6.45 p.m.: "Bobby
Bluegum" has some simple strains for
small singers.

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'Na-
mara and Co.; pig market reports by
M'Phail, Anderson, and Co.; official report
of the Newmarket stock sales by the As-
sociated 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, Limited; poul-
try, grain, hay, straw, lute, dairy pro-
duce, potatoes, and onions; market re-
ports of fruit by the Victorian Fruiterers'
Association; retail prices; wholesale prices
of fruit by the Wholesale Fruit Mer-
chants' Association; citrus fruits.
7.30 p.m.: News session.
7.43 p.m.: Birthday greetings.
7.45 p.m.: "Out of the Past."
7.46 p.m.: Miss May Collins, now appearing
at the Theatre Royal, will speak 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."
8.15 p.m.: The Radi-o-Aces.
"On the Air" (Goldman).
"Harvest Moon" (Bayes).
"That's My Mammy" (Donaldson).
8.24 p.m.: James Riley, tenor.
"Molly Bawn" (Lover).
8.27 p.m.: The Radi-o-Aces.
"In a Honeymoon Cottage" (Lumsdaine).
"Do You?" (Piantodosi).
"Dea, on a Night Like This" (Conrad).
8.36 p.m.: French Bros., banjoists.
"Beneath a Tropic Moon" (Jones).
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.: Molly Mackay, soprano.
"Oh, Steer My Bark to Erin's Isle"
(Irish).
8.51: The Radi-o-Aces.
"You're a Real Sweetheart" (Friend).
"Dusky Stevedore" (Razalf).
"Beside a Lazy Stream" (Steept).
9.0 p.m.: Grace Jackson, contralto.
"Lackaday" (Crampton).
9.3 p.m.: The Radi-o-Aces.
"Mary Ann" (Davis).
"Someone is Losin' Susan" (Myer).
"Afraid" (Banie).
9.12 p.m.: James Riley, tenor.
"Molly Brannigan" (Stanford).
9.15 p.m.: The Radi-o-Aces.
"Evening Star" (Fink).
"You Are Wonderful" (Ash).
"Just Like a Melody Out of the Sky"
(Donaldson).
9.24 p.m.: French Bros., banjoists.
"There Must Be a Silver Lining."
9.27 p.m.: The Radi-o-Aces.
"Chiquita" (Wayne).
"Hot Ivories" (Sinastra).
"There Ought to be a Law Against That"
(Friend).

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9.36 p.m.: Molly Mackay, soprano.
 "April Morn" (Batten).
 9.39 p.m.: The Radi-o-Aces.
 "Sunshine" (Berlin).
 "Rain" (Ruby).
 "Mine, All Mine" (Ruby).
 9.48 p.m.: Grace Jackson, contralto.
 "Bird of Love Divine" (Haydn Wood).
 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 session; British Official Wireless News from Rugby; meteorological information; announcements.
 10.15 p.m.: The Radi-o-Aces.
 "Constantinople" (Carlton).
 "Beautiful" (Gillespie).
 "After My Laughter Came Tears" (Shay).
 10.24 p.m.: James Riley, tenor.
 "For You Alone" (Geehl).
 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.: French Bros., banjoists.
 "Coquette" (Creer).
 10.39 p.m.: The Radi-o-Aces.
 "My Melancholy Baby" (Norton).
 "Lolita" (Stonham).
 "That's My Weakness Now" (Stept).
 10.48 p.m.: Grace Jackson, contralto.
 "Kentucky Babe" (Geibel).
 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).
 Selected.
 11.40 p.m.: God Save the King.

3AR, MELBOURNE

Thursday, December 13

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: John Stuart.

Accompanist: Reg. Brown.

11 a.m.: Radi-o-Aces, "Once Again" (Lumsdaine), "Meet Me To-day" (Dean), "Last Night I Dreamed You Kissed Me" (Kahn), "That's My Mammy" (Donaldson), "Honeymoon Cottage" (Lumsdaine), "Ah, Sweet Mystery of Life" (Herbert).
 11.30 a.m.: Rita Hilton, entertainer, "Dream House" (Krueger), "Maybe I'm Wrong" (Krueger). 11.37 a.m.: Radi-o-Aces, "Evening Star" (Turk), "Russian Rag" (Stutzel), "We'll Have a New Home in the Morning" (Buck), "In a Bamboo Garden" (Donaldson), "Anything You Say" (Donaldson), "My Melancholy Baby" (Norton). 12 noon: Jean Lewis, contralto, "Elegie" (Massenet), "Ships That Pass in the Night" (Stephenson). 12.7 p.m.: Radi-o-Aces, "Constantinople" (Carlton), "Don't Cry, Baby" (Kahn), "Love Affairs" (Robinson). Piano solo, "Jazz Master" (Wayne), "In My Bouquet of Memories" (Lewis), "Sentimental Baby" (Davis). 12.27 p.m.: British official wireless; announcements. 12.37 p.m.: Rita Hilton, entertainer, "My Blackbirds are Bluebirds Now" (Friend), "I Want a 'Yes' Boy" (Friend). 12.44 p.m.: Radi-o-Aces, "Rose of Monterey" (Guy), "Red Head" (Ermbey), "Jeannine" (Gilbert).

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"Dream House" (Fox), "I'm Sorry, Sally" (Kahn), "Mary Ann" (Davis). 1.4 p.m.: Jean Lewis, contralto, "Three Fishers" (Hullah), "I Wonder If Ever the Rose?" (Slater). 1.11 p.m.: Radi-o-Aces, "Tell Me To-night" (Little), "Polly" (Zamecnik), "Felix the Cat" (Naus-traum), "Delirium" (Schutt), "Blue Berry Land" (Bryan), "Let a Smile Be Your Umbrella" (Fain). 1.30 p.m.: Close down.

EVENING SESSION.

Announcer: Frank Hatherley.

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

NIGHT SESSION.

Announcer: Frank Hatherley.

Accompanist: Reg. Brown.

8 p.m.: Under the auspices of the Health Association, Mr. T. J. Ryan, "Oral Hygiene."
 8.15 p.m.: Captain C. H. Peters, "Books, Wise and Otherwise."
 8.30 p.m.: Station Orchestra, selection, "The Pearl Fishers" (Bixet).
 8.45 p.m.: Ida Walker, mezzo, "Looking Backward" (Parry), "Raindrops" (Granville Bantock).
 8.52 p.m.: Station Orchestra, "overture, 'Il Guarany' (Gomes).
 9 p.m.: James Hay, tenor, by permission of J. C. Williamson, Ltd., selections from his repertoire.
 9.7 p.m.: Bertha Jorgensen, violin, "Love Song" (Toscha Siedel), "Waltz" (Brahms).
 9.14 p.m.: James Hay, tenor, special items.
 9.21 p.m.: Programme arranged by J. Sutton Crow and broadcast from Auburn Methodist Church—J. Sutton Crow, organ, "Toccata in G" (Dubois); Alan Eddy, baritone, "Like as a Heart Desireth" (Allitsen). Auburn Methodist Choir, "Shadow Chorus" from "Orpheus" (Gluck). J. Sutton Crow, organ, "Andantino" (Lemaire). Alan Eddy, baritone, "On Wings of Song" (Mendelssohn). Auburn Methodist Choir, chorus, "Ho! Everyone that Thirsteth" (Martin).

FROM THE STUDIO.

9.51 p.m.: Station Orchestra, selection, "Carmen" (Bizet).
 10.1 p.m.: Ida Walker, mezzo, "Ouvre tes yeux bleus" (Massenet), "The Star" (Rogers).
 10.8 p.m.: Station Orchestra, "Andante" from Sonata No. 7 (Grieg); suite, "In Days of Old" (Meredith Ball).
 10.23 p.m.: "Age" news service, exclusive to 3AR.
 10.28 p.m.: Weather forecast.
 10.29 p.m.: Our Australian good-night quote.
 10.30 p.m.: God Save the King.

4QG, BRISBANE

Thursday, December 13

EARLY MORNING SESSION.

Announcer: J. Tyson.

7.45 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.: Lecturette, a gardening talk by "Tecoma." 11.30 a.m.: Music. 11.35 a.m.: More social news. 11.45 a.m.: Music. 12.0 noon: Close down.

MID-DAY SESSION.

Announcer: R. Wight.

1.0 p.m.: Market reports and weather information. 1.15 p.m.: From the Constitution Club, a lunch-hour address. 2.0 p.m.: Close down.

AFTERNOON SESSION.

3.0 p.m.: From the studio, a programme of music by the studio orchestra—Overture, "Die Felsenmühle" (Reissiger); Valse, "Elysium" (Gilder); Violin and Clarinet, "Cute and Cunnin'" (Kempinski); soloists, Mrs. M. C. Williams and Mr. C. Hansen; "Serenade" (Toselli); Cornet solo, "The Satellite" (Clay Smith), soloist Mr. H. Jackson; One-step, "Back to Alabama in the Spring" (Palmer); March, "Entry of the Gladiators" (Fucik). 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.

6.0 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 bedtime stories conducted by "The Sandman." 7.0 p.m.: News in brief. 7.5 p.m.: Stock Exchange news. 7.6 p.m.: Metal quotations. 7.7 p.m.: Market reports. 7.25 p.m.: Fenwick's stock report. 7.30 p.m.: Weather information. 7.40 p.m.: Announcements. 7.43 p.m.: Standard time signals. 7.45 p.m.: Lecturette, a talk on "Books" by Mr. J. Doyle (M'Leod's).

NIGHT SESSION.

8.0 p.m.: A classical programme arranged by Mr. Eric Hayne—
 Eric Hayne (violinist)—
 "Moderato from Concerto in A Minor" (Viotti).
 8.12 p.m.: Les Edye (baritone)—
 "My Lady Chloe" (Clough-Leighton).
 "I Got a Robe" (Edna Thomas).
 8.17 p.m.: Percy Brier (pianist)—
 "Passacaille" (De Lalande).
 Minuet (Rousseau).
 8.25 p.m.: Marie Knight-Corkran (soprano).
 "What's in the Air To-day" (Robert Eden).
 "June Music" (Lionel Trent).
 8.31 p.m.: Eric Hayne (violinist)—
 "Prelude and Allegro" (Pognani-Kreisler).
 8.36 p.m.: Les Edye (baritone)—
 "Persian Serenade" (Cooke).
 "Nirvana" (Adams).
 8.43 p.m.: Percy Brier (pianist)—
 "A Sunday Morning by the Lake of Geneva" (Bendell).
 "Humoresque" (Dunhill).
 Marie Knight-Corkran (soprano)—
 "The Owl" (Liza Lehmann).
 "The Cuckoo" (Liza Lehmann).
 Eric Hayne (violinist)—
 "Intermezzo" (Mascagni).
 "Pale Moon" (Logan-Kreisler).
 Cecile Pritchard (accompanist).
 9.0 p.m.: Metropolitan weather forecast.
 9.1 p.m.: A talk to motorists, "Spring Cleaning Your Car," by "Gargoyle."

CADENZA PLECTRAL CLUB.

9.10 p.m.: A programme by Mrs. Matthews' Cadanza Plectral Club and Banjo Band—
 Mrs. Matthews' Cadanza Plectral Club—
 "Quartet from 'Rigoletto'" (Verdi, arr. Odel).
 Sid Smith, with Mrs. Matthews' Banjo Band, in popular numbers.
 Jim Matthews (tenor banjoist)—
 "Hi! Hi!" (Bochnlein).
 Popular numbers.
 Clare Matthews (violinist), selected.
 The Banjo Band—
 "The Dandy" (Morris).
 "Sunny Smile" (Weidt).
 Mrs. L. Hunter (soprano)—
 "I Love You, Dear" (Stultz), accompanied by Cadanza Plectral Club.
 Mrs. Matthews (piano), Clare Matthews (violin), Jim Matthews (tenor banjo), "Musical Moments."
 Mrs. L. Hunter (mandolinist)—
 "Un Peu d'Amour" (Las Sileu).
 Jim Matthews and Henry Allen (tenor banjoists)—
 "The Black Prince" (Weidt).
 Clare Matthews (violinist), selected.
 Cadanza Plectral Club—
 "Solre Las Olas" (J. Rosas).
 Sid Smith with the Banjo Band in popular numbers.
 The Cadanza Plectral Club and Banjo Band—
 "The N.C.—4" (Bigelow).
 10.0 p.m.: "The Daily Mail" news, "The Courier" news; weather news. Close down.

7ZL, HOBART

Thursday, December 13

MIDDAY SESSION.

Announcer: Jack Broadbent

11.30 a.m.: M'elie Columbia broadcasts. 11.34 a.m.: Special Midlands weather forecast. 11.35 a.m.: M'elie Columbia broadcasts. 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.: M'elie Columbia broadcasts. 12.11 p.m.: British official wireless news. 12.20 p.m.: M'elie Columbia broadcasts. 12.29 p.m.: Announcements. 12.33 p.m.: M'elie Columbia broadcasts. 12.55 p.m.: "Mercury" news service, produce sales held at railway. 1.10 p.m.: M'elie Columbia broadcasts. 1.30 p.m.: Close down.

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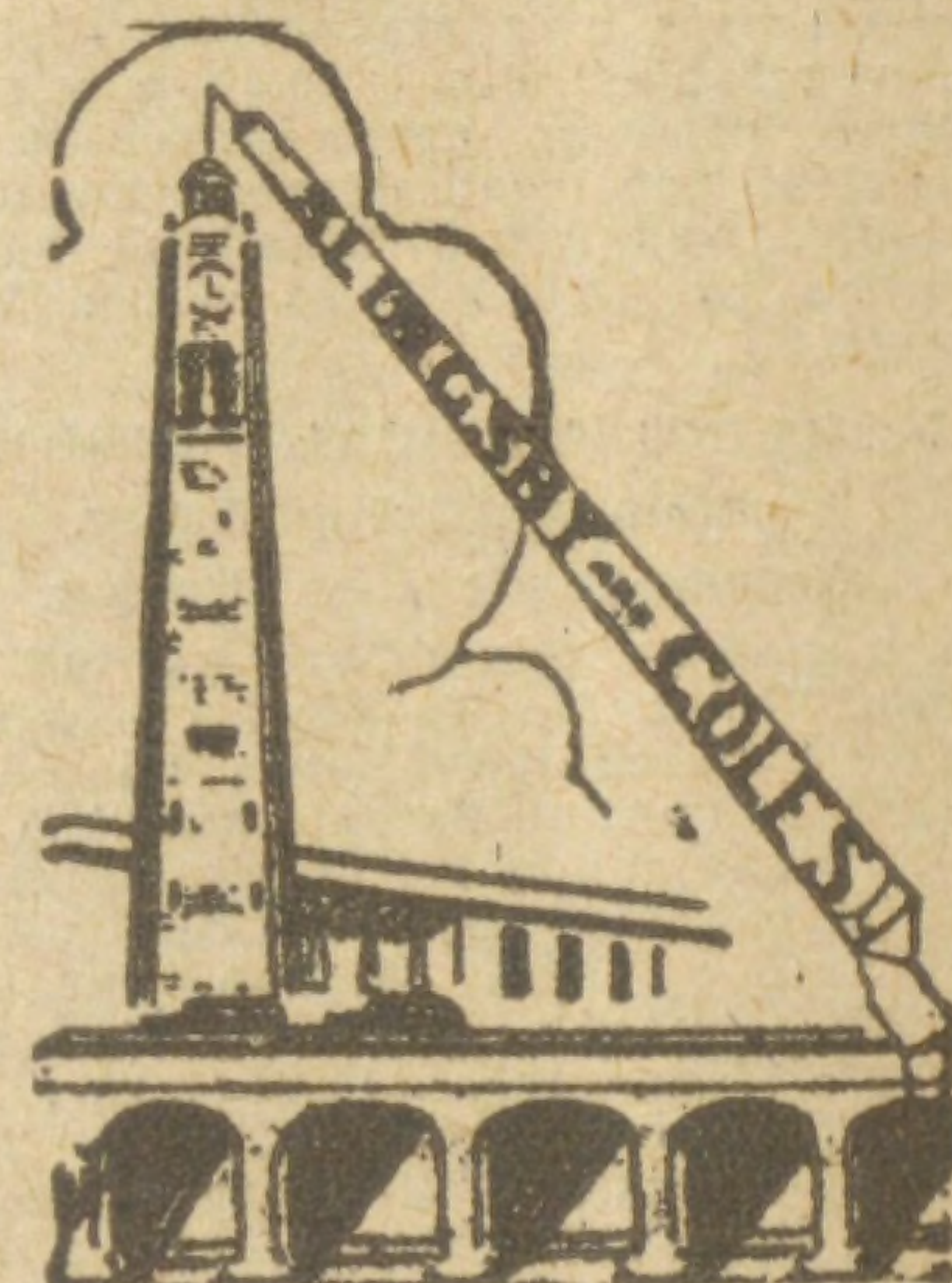
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The WIRELESS WEEKLY

RADIO INFORMATION

Service

Readers' queries are answered here by our trouble-finding expert, under the direction of the Associate Editors, Mr. Roy 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.

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

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 order they are received in the columns of this department.

J.F. (Waterfall).—"Is it practicable to add a one-stage amplifier to a two-stage unit, which does not give enough volume? If so, which will give the best results, resistance or transformer coupled—when the one I have is transformer coupled?"

Answer: It is not recommended because two transformer coupled stages form a practical unit. If another valve is added to the audio amplifier unit, it will amplify the extraneous noises and noises caused by current fluctuations to such an extent that the tone quality is not up to standard. In the case of resistance coupling, three valves may be used efficiently in the audio unit; but this is not practicable in the transformer coupled circuit unless a push-pull arrangement is used. The insufficient volume is probably caused through some defect in the existing audio amplifier, and it may be caused through a defective transformer.

T.B. (Newcastle).—"What are the characteristics of the Western Electric Company's VT-1 radio amplifier valves, and how may they be used with a six volt "A" accumulator? I have tried one in my set; but it seems to heat the rheostat unduly."

Answer: The rheostat for this valve should be of approximately four ohms resistance, and the wire used should be of sufficient thickness to carry the filament current without overheating, when the "A" battery has a potential of six volts. The characteristics of the valve in question are:—Filament volts, 2.25; filament current, 1.15 amps.; detector plate voltage, 14 to 22.5 volts; amplifier plate voltage, 67.5 volts; "C" voltage (grid bias), 3 volts; output impedance, 10,000 ohms; undistorted power output slightly greater than a 199 valve, but less than a 201 A.

J.F. (Moss Vale).—1. "I have a Radiola superheterodyne, which employs a 120 power valve. The reception now is as good as when the set was bought. However, it is not quite as clear as I should like it to be. The tone is more or less muffled, especially on the low notes. . . If all the valves are O.K. can this muffled sound be caused by the valves?"

Answer: No; but muffled reception will result if the valves are not supplied with the proper A, B, and C voltage. If the 120 valve is being supplied too little C voltage the tone will very likely be muffled. If supplied with too little C voltage the tone will be thin and metallic. The loud speaker may be at fault.

2. "Is there any way to test the tonal qualities of a receiver to determine if it is fundamentally correct? For instance, as one

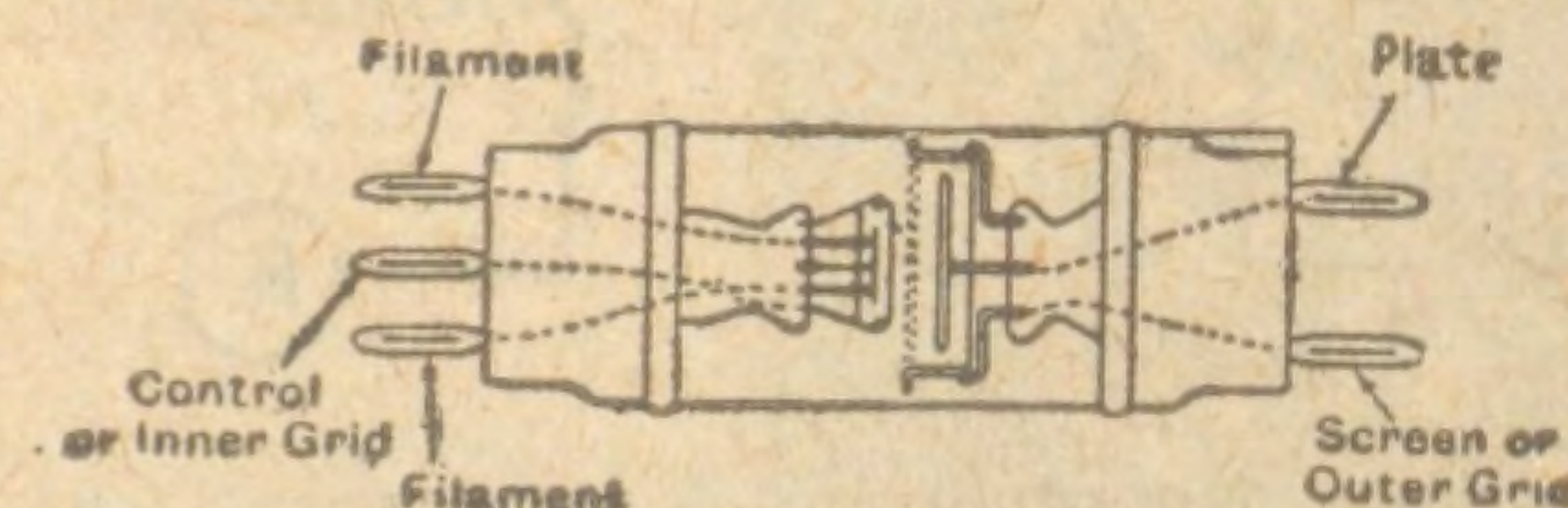
would test a violin from a note struck on a piano?"

Answer: There is no easy test. Mathematics and special laboratory tests would have to be entered upon, as even the furniture and coverings in your room would have some effect on reproduction.

3. "Would a 36-inch diameter cone speaker provide clearer reception than the two horns built in this set? If so, how is it connected in the receiver?"

Answer: Yes, providing the poor tone is caused by the present loud speaker unit or units. A good loud speaker will reproduce faithfully within its mechanical limits the quality of tone supplied by the power valve. It is generally found that the larger the reproducing surface of the speaker the better will be the bass production.

"JABAX" (Hornsby).—"I have a double grid valve, which has three prongs on one end and two prongs at the other end. Can



you please give me a diagram showing how these terminals should be named?"

Answer: The diagram appears in these columns. The two filament connections are situated on each side of the inner-grid. By following up the connections through the valve you can easily follow out which is the plate or outer grid. The inner grid is the main grid, as used on an ordinary receiving valve.

W.A.D. (Mandurama).—"I have built the 'All-Empire Receiver,' and find that I can remove the screen grid valve without impairing results. Can you tell me where I have erred?"

Answer: The fact that you can remove the R.F. valve and still receive strong stations is in order. However, the R.F. stage (particularly in the "All-Empire") should boost up considerably any distant signals. Perhaps you are not placing the correct plate voltage on the S.G. valve. The voltage should be equal to that placed on the amplifiers, i.e., 120 volts.

B.H.P. (Deepwater).—(1) "Would it be possible for a person who has a fair knowledge of electrical engineering (car), and knows how to use tools, etc., to make such radio components as variable and fixed con-

densers, transformers, rheostats, valve sockets, jacks, etc.?"

Answer: If, as you state, your knowledge is only fair, I would not advise you to undertake the manufacture of these components, particularly condensers, transformers, and the like, owing to the fact that in most cases difficult calculations are necessary. Further, special appliances would be required for winding transformers, for though you may wind one or two by hand, this would soon become monotonous, especially as the wire used is as fine as hair, and if this breaks during winding, the whole procedure must be repeated. Again, radio components to-day are turned out very cheaply, and mathematically correct, so that it would not pay you to construct these parts, even though you had the necessary tools and knowledge of calculation.

(2) "Where could the various materials be procured? Also give the name of a good book giving full constructional details."

Answer: The Metropolitan Electric Co., the B.G.E., the A.G.E., and other such firms would be able to supply you with this electrical material. You would require moulds etc., for valve sockets and rheostat supports. A suitable book would be "The Construction of Radio Components," obtainable from Swains, Pitt Street, Sydney.

(3) "Could 'Carboncells' give as good results as dry batteries?"

Answer: Yes, providing you use the correct combination of cells for amperage and voltage.

(4) "What circuit would you recommend (using three valves), which would be suitable for reception in Deepwater (about 440 miles from Sydney), such circuit to be made into a four or five valve receiver at a later date? Also, what valves would be best to use in this circuit?"

Answer: A three-valve Neutrodyne would suit your requirements. This could be made into a four or five valve circuit at little expense and trouble. Use Philips' four-volt series valves.

(5) "What does an experimental license cover?"

ago, but have not seen my replies published yet."

Answer: The experimental license covers G.H. (Clovelly).—(1) "I wrote some time radio transmission and reception on wavelengths approved by the Postmaster-General.

Answer: We have no record of the receipt of your letter.

(2) "Would a Ferranti AF2 transformer be an improvement in the 1928 Solodyne?"

Answer: Yes, the Ferranti is an excellent transformer, giving plenty of amplification without distortion.

(3) "Would it be in order for me to use three vernier dials instead of a one-dial control, as I like individual tuning for accuracy?"

Answer: Your proposition is quite in order, but tuning will be considerably more difficult.

(4) "Would the inclusion of a 30 ohm rheostat to control the detector valve instead of an amperite allow finer tuning?"

Answer: No; just use the ampere.

(5) "Is the Solodyne most suitable for my locality?"

Answer: Yes; this receiver will meet all your requirements.

G.M.C. (Epping).—"Will you please tell me if the charger described in 'Wireless Weekly,' November 19, 1926, will charge a 90-volt Clyde 'B' battery?"

Answer: This charger may be used with any accumulator "B" battery with success.

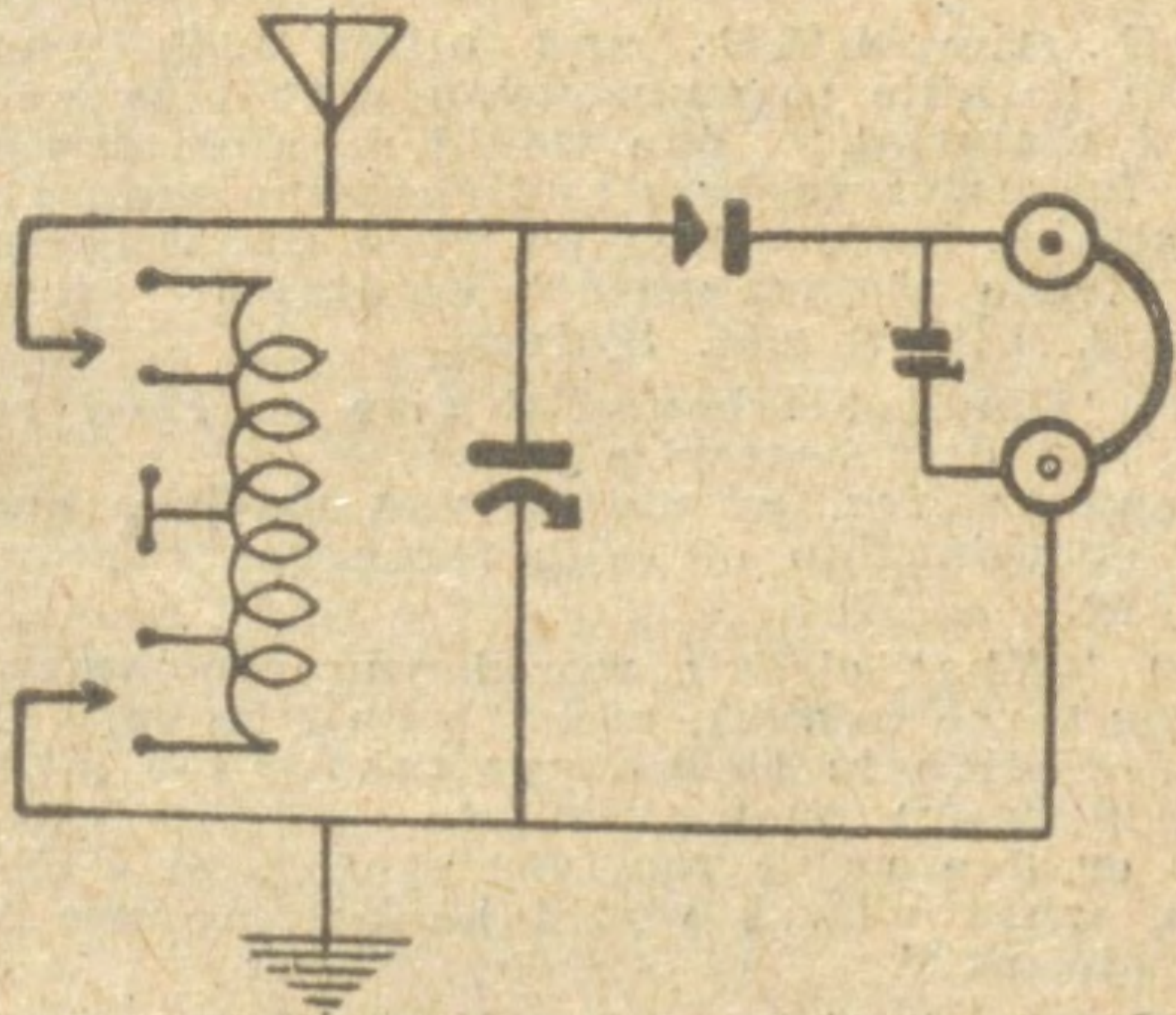
"NOVICE" (Burwood).—"I have built a four-valve Browning-Drake. Volume on local stations is excellent. I can hear them fully fifty yards from the set. Should I be able to receive inter-State stations on the loud-speaker? When the first rheostat is switched off reception is much clearer, and practically as strong. Why is this?"

Answer: Yes, you should be able to receive inter-State stations on the speaker. Your latter remarks point out that the trouble is in the R.F. stage. The reason why you can hear stations when the first rheostat is turned off is because this rheostat controls only the R.F. valve. You will find that the first valve in your receiver can be removed entirely whilst listening to local stations. Always leave this rheostat off when listening to locals, as battery current will be saved. This is the reason why the rheostat is introduced into the circuit. See remarks to J.F. (Dalkeith), and follow out instructions with your R.F. stage. The receiver is not neutralised. Make your aerial a little longer.

G.O.M. (Dalgety).—"I have built the 'All Empire' receiver as described in 'Radio' of June last, but have been unable to get results from it. The R.F. condenser was three-quarters of the way in, and the second condenser was 10 degrees in 'when listening to 3LO.'"

Answer: The trouble will be found in the coils, which evidently are not matched. Check number of turns, etc.

L.A.S. (Wentworthville).—"Will you please give me a simple compact crystal circuit that is selective and powerful, having a good range, that will be suitable for me to take away on holidays, per motor cycle?"



Answer: (1) The circuit is shown in these columns. The variable condenser has a capacity of .0005 mfd., whilst the fixed condenser across the phones should have a capacity of .002 mfd. The coil should be wound on a three-inch former—sixty turns of 22 D.C.C. wire, and is tapped at the first five, twelve, and thirty turns; also at the last five, twelve, and twenty turns.

(2) "Is a New South Wales broadcasting license suitable in Victoria for tourists?"

Answer: Yes; the license is O.K.

G.D.A. (Maroubra).—"In which lead should the battery switch be placed?"

Answer: This depends on the remaining connections of the set. If A plus is connected to B minus, then connect it in the A plus lead. If A minus is connected to B minus, connect it in the A minus lead.

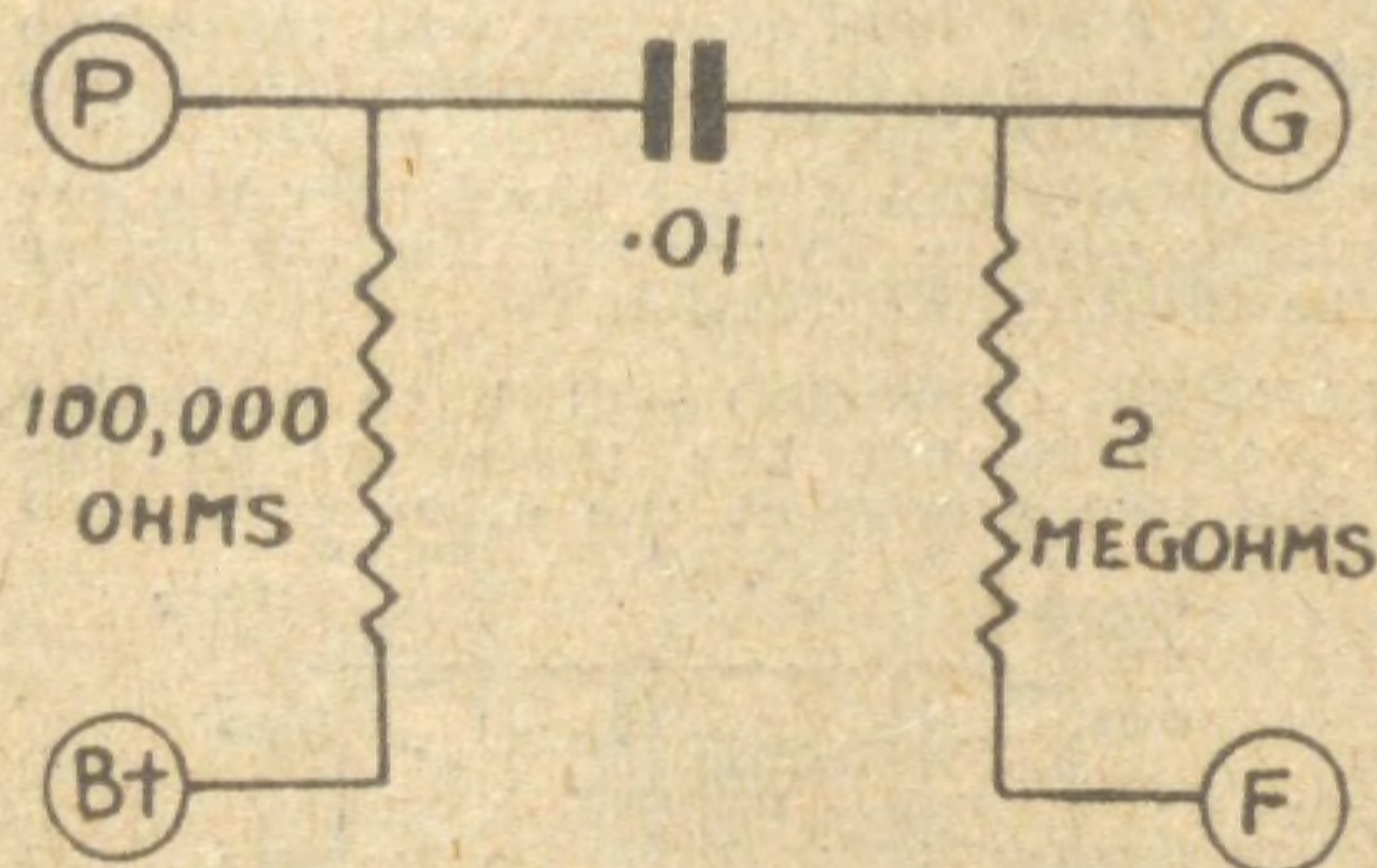
G.R.J. (Brisbane).—"I have been exploiting one-valve receivers, and came across the Filadyne One-Valver described in your journal 11th Nov. 1927. I built this set, and found I got more volume from 4QG than on any one-valve set I have tried, the volume being equal to a crystal and one-valve amplifier. The stumbling-block lies in the reaction. I have not been able to get the set to oscillate at all, and, consequently, there is no sign of inter-State stations. I have tried higher plate voltage without success."

Answer: Place a .001 fixed condenser across the telephone terminals. This will assist oscillation.

W.M.D. (Clarence River).—"In your article dealing with the Screen-Grid Peridyne, you state that the four-volt R.F. valves may be followed by six-volt valves. Would you be good enough to explain (per medium of 'Wireless Weekly') how this may be done, as I have just finished my Gloomchaser. In my opinion, life in the bush would not be worth living without a set of some sort; but so far the Gloomchaser is the best I have heard."

Answer: In order to use six-volt valves in conjunction with the four-volt screen grid valve, use a six-volt accumulator, and place 20-ohm resistors in the filament leads of the A442's. Glad to hear you like this receiver.

"REINARTZ" (Stanthorpe).—"I have built the Improved Reinartz Three, as per 'W.W.' of August 10, with exceptionally good loud-speaker strength results. I have received all southern stations except 5CL, and am desirous of substituting the last stage of transformer coupling for one of resistance. Is this possible without altering subsequent wiring? If so, would you please give me particulars through 'Wireless Weekly.' Please make it plain, as I am rather a dunce at radio. If possible please give a diagram."



Answer: The diagram is reproduced on these pages. The first resistance is of 100,000 ohms, whilst the second is two megohms, or 2,000,000 ohms resistance. The fixed condenser has a capacity of .01 mfd. In case the diagram is not sufficiently clear to you, we give particulars. Remove wires from the terminal of the last audio transformer marked G, and connect these to one side of the 2 megohm resistance. Also connect this lead to one side of the fixed condenser of .01 mfd. From the other side of this condenser connect to one side of the 100,000 ohm resistance, to which point is also connected all leads at present making contact with B of your last audio transformer. On the other end of the quarter megohm resistance connect all the P plus leads from the transformer in question, then transfer the leads from F negative of the last transformer to the remaining connection on the 2 megohm resistance.

J.F. (Dalkeith).—"Will you please tell me how to neutralise a Neutrodyne?"

Answer: Remove the first R.F. valve, and place a piece of paper over one of the filament prongs, and replace the valve. Tune in an inter-State station, then adjust the neutralising condenser until the signals die away, or almost so. Remove the piece of paper from the filament prong, and place it on a like prong of the next R.F. valve,

and repeat the treatment. The receiver will then be neutralised. It is advisable to remove any condensers which may be in the aerial circuit while this procedure is being carried out. The aerial should not exceed 75 feet for best results. It may be necessary to tune in the inter-State station before the first R.F. valve is attended to, afterwards re-tuning.

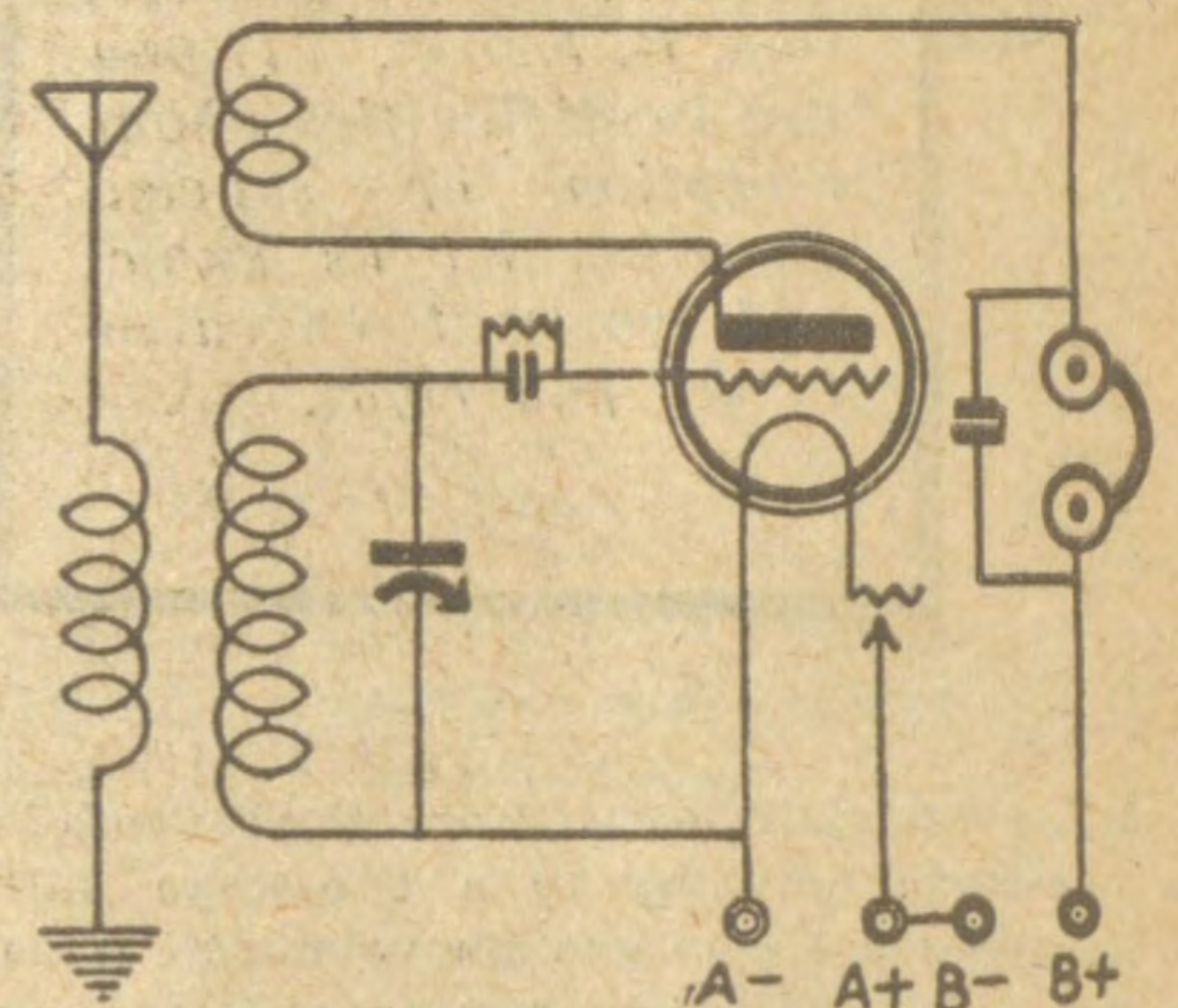
E.M. (Goulburn).—"I saw a heading in your paper, 'Have you heard 2NO?' I cannot get below 250 metres on my Browning-Drake, which has 50 turns on the aerial coil, 65 turns on the grid coil, and 25 turns on reaction. How can I get down to 220 metres?"

Answer: Remove a few turns (try ten) from your grid coil. This should enable you to tune from approximately 200 metres to 500 metres, which is quite sufficient for the broadcast band.

(2) "Is the screen grid valve suitable for short waves?"

Answer: Using the S.G. valve on a short-wave receiver, R.F. amplification is remarkable. Thanks for your kind remarks.

A.H. (Wollstonecraft).—"Will you please give me a circuit for a one-valve receiver using one tuning condenser of .0005 mfd?"



Answer: The circuit appears here. A three-coil tuner is used for the coil system. Use a 30 ohm rheostat, and 2 megohm grid leak with a .00025 fixed condenser. A Philips 4-volt valve may be used in this circuit, which is the "Old Reliable." The fixed condenser across the phones is of .001 mfd.



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Published by Godfrey Blunden, of 2a Clanalpine Street, Mosman, for the Proprietors, Wireless Newspapers, Limited, 51 Castlereagh Street, Sydney; and printed by Marchant and Co., Ltd., 321 Pitt Street, Sydney.

The Editor will be glad to consider Technical and Topical Articles of interest to Australian Readers. All Manuscripts and Illustrations are sent at the author's risk, and although the greatest care will be taken to return unsuitable matter (if accompanied by stamps), the Editor cannot accept responsibility for its safe return.

Subscription Rates.—Twelve months (52 issues), 13/-, post free; six months (26 issues), 6/6, post free. Single copies, 3d each, or post free 4d. Subscriptions should be addressed to Wireless Newspapers, Ltd., 51 Castlereagh Street, Sydney.

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