SPAN (Dunedin): I have built an Outspan Five, and it is not giving anything like the result that it should. As soon as I bring the r.f. condensers into alignment a vicious rattle is set up. I have tried shielding the valves and the condensers, but there was no improvement.

A.: If you have followed the lay-out exactly as it was given you should have no difficulty on the score of uncontrollable oscillation. We would suggest extra by-pass condensers between B+ r.f. and earth and between the grid return and earth choke in the leads to the plates of the r.f. valve suitably by-passed would also help to control oscillation. Look for a defective condenser and defective valves. Test the coil for continuity, and try reversing the connection to the primary coil.

2. Would a choke in the screen-grid circuit be of any use? If so, how many turns would you suggest?

A.: A choke is not necessary unless the screen is taken to a point common with other leads to different parts of the set. The choke could consist of a thousand turns on a core former. A suitable choke was described in the 1930 "Radio Guide" and reproduced in the "R.R." a short time ago.

G.E. (New Plymouth): My 4-valve electric set has become very unstable, particularly on the lower wavelengths. A station may be tuned and then it completely fades away, and the set bursts into oscillation. It cannot be left unattended for any length of time.

A.: It requires to be neutralised, or the instability may be due to the lack of by pass condensers. And then if there are plenty of by pass condensers, it is possible that some have broken down. Try fairly large condensers across the "B" batteries. We presume that you have them between the plate and earth.

MIKE (Blenheim): I have recently acquired from the estate of a deceased person a partially complete radio set. Unfortunately the circuit diagram cannot be found, and all the parts are English. Could you give me a suitable circuit?

A.: It appears difficult with the information given, to give you the circuit you require. We have hunted up several English magazines, but cannot get anything quite suitable. We would suggest that you write to a city dealer who specialises in English products, and see if you can get a suitable circuit from them.

2. Can you tell me the correct connection for the respective 6-pin coil bases?

A.: The six-pin base may be used in a variety of ways, depending upon the circuit employed. A quite usual system seems to be (1) aerial, (2) earth, (3) earth (bot. sec.), (4) grid, (5) wavelength change, being the centre tap of the secondary coil. This could be used for regeneration, but, as we added before, there are an infinite variety of ways in which the six-pin coil can be used. Your best plan is to scan through the advertisements in this issue and see which dealers specialise in English goods, and drop them a line. They possibly will be able to do something for you.

NEW SET (Dunedin): I have a 75ft. aerial, including lead-in, and am very close to a high-powered electric cable. Would reception be better if I lengthened it?

A.: It certainly would, but by lengthening it you are liable to pick up interference from the main line.

2. I am not troubled with much noise from the local station, but yet consistent crackling absolutely kills reception when volume is turned on to bring in the Australian or long-distance stations.

A.: Remove your aerial and then turn up your set and see if the noise persists. If it does not, as we think it will not, then you can take it for granted that the noise is coming from the power lines close by, and in this case the only plan left open for you is to get in touch with the District Radio Inspector, who should be able to help you.

3. What height should my aerial be to give satisfactory receptions from distant stations?

A.: As high as possible, particularly if you get interference from power lines; 40ft. is not too high.

R.L. (Christchurch).—My set is a home-conducted all-electric receiver using 2 RF 227's grid detector, 227 and reaction. My difficulty is in the primary, but I have tried 60 turns of 34 s.w.g. enamelled wire solenoid wound over the secondary, and tapped at 30 for split primary neutralisation. Results have so far been only fair, with selectivity poor. I have tried several types of primaries, but found the one mentioned the best, although it is not satisfactory. The second tuning condenser has little or no effect upon the signals.

A.: It is quite clear that there is something wrong with the second r.f. stage. We cannot help you by pointing out what it is, but concentrate on that stage. Until that condenser tunes sharply there is still something wrong which is affecting the set generally. We think if you get to the bottom of this trouble your selectivity problems will disappear. You seem to be using the correct number of turns and the best system of coupling the valves. We presume that you have taken the very simple precaution of arranging the windings in the same direction.

G.L.H. (Northland): I have assembled the Rejecta Set and am perfectly satisfied with the result, but is it not possible to get greater strength from 2ZW? We get 2YA strongly enough to drive a speaker.

A.: 2ZW is a relatively weak station, and it is not always possible to pick it up on a crystal set. The Rejecta is equally as sensitive as any other type of crystal set, as made evident by the fact that you can receive 2YA loudly enough for a loudspeaker. You should, however, be able to receive 2ZW at fair crystal strength. Of course, you will never be able to get it really well on account of its low power.

C.N.B. (Auckland): Can an "A" and "B" eliminator be made with only one rectifier, preferably a Westinghouse, and if so where can I obtain instructions for same?

A.: An "A" and "B" eliminator can rarely be made with the same rectifier, unless it uses the special rectifying valve for that purpose. A suitable circuit was described in the 1930 "Radio Guide." We do not know of a Westinghouse rectifier that will do both jobs, although you could get two Westinghouse rectifiers, one for the "A" and one for the "B."

2. Would the Radiogram Five work satisfactorily with an ordinary valve instead of a s.g. for the r.f. stage? If so, can you supply the circuit?

A.: Yes, it would work perfectly well with a triode stage used in the r.f. A circuit is not available at the present time although in the near future we hope to bring out a three-valve circuit with a triode in the first stage. You could, however, build the Browning Drake with two stages of triode r.f. This would be the Radiogram Five, only the battery version. You would, of course, adapt push-pull amplification, as shown in the "Radio Guide."

3. Is a s.g. valve much harder on batteries than an ordinary valve?

A.: No. It requires very little extra current.

4. Is a Philips A635 valve suitable for the first stage of r.f. amplification?

A.: The A635 is a very high impedance triode, and is very difficult to neutralise in a circuit such as the Radiogram. A far better plan would be to put in a modern s.g. valve.

5. In my set I am using a .0005 tuning condenser, and cannot tune below 300 metres. Can I lower this by taking a few turns off the secondary?

A.: Yes. Take off about 5 or 10 turns.

Children's Sessions

From 2YA

Monday, July 13.—Uncle Jeff and Kipling Lady will conduct the session to-night.

Tuesday.—Uncle Toby and Jumbo have a specially prepared surprise for you to-night. In the studio will also be Mrs. Mildred Kenny's Juvenile Band to play on their banjos, ukuleles, and steel guitars.

Wednesday.—To-night there will be another Meeting Pool Story. Aunt Daisy's band of Cheerful Chirpers will sing choruses. There will be birthday greetings as usual and some riddles and jokes.

Thursday.—Requests have come in for more of "Alice Through the Looking Glass," so Miss Lottie Rastall and her party are doing it to-night. Big Brother Jack will give some of his clever animal imitations and send birthday greetings.

Friday.—Aunt Pera and a party will present a play and sing choruses. Uncle Jim will also be here with stories and jokes.

Saturday.—Would you like to join Aunt Molly and Uncle Jasper to-night, when they leave the studio in a big magic wooden horse—with Mrs. Buzzsaw as a guide—to visit "Tool-Land"? The chisel, screwdriver, plane, hammer, rake, spade, and lawn mower, with all the other tools, have promised to give a concert. "Tool-Land" has just installed a new wireless set and they want all to listen-in. It should be fun.

Sunday.—The Children's Choir from the Petone Church of Christ, under the leadership of Mr. Thomas, will be in the studio to-night, with Uncle George to conduct the service.

From 3YA

Monday, July 13.—You all remember "Uncle Hal"? Well, he has the jolliest story to tell to-night. A new Aunt is also going to speak and Cousin Gwen will sing and play. Then the sandman comes with his dust cart.

Wednesday.—Both Cousin Beatrice and Uncle John have an interesting programme for you, with solos from a number of Radio cousins—sweet dreams, children.

Thursday.—Food fun to-night—"The Thursday Three" (Ladybird, Uncle Frank, and Uncle Dick)—with the Elmwood School to join in choruses and songs, with Mr. Martin to conduct. "Now at last the merry sun tells the world that day is done."

Friday.—Its Chuckle to-night and a sweet little choir of girls' voices will sing "Christopher Robin is Saying His Prayers."

Saturday.—Of course it is Uncle Claude to-night, with his bright, youthful band of entertainers. He will have another surprise for you all. Perhaps a very old friend may be back to-night. Listen for the voice—"Hush! Here comes the dream man."

Sunday.—To-night the Rev. J. Rich, well known in the Scout movement, will speak to you and his little choir will sing.

THE swing of the pendulum is indicated by the announcement that Canadian broadcasters have decided to cut down all microphone advertising to 5 per cent. of the total programme time. No sales talk is to be allowed during sponsored programmes given on Sundays.