

4's cost 13s. 6d. each. By-pass condensers, Dubilier, 0.1, 3s. each. "Royalty" or other variable resistances 1500 to 100,000 ohms, 8s. each; 2 mid condensers, 7s. each. Wire for smoothing choke, 14lb. 30's enamelled, 4s. Wire for filament winding and internal connections, 1lb. 18's d.c.c. 3s. 6d. Carborundum fixed resistors, 2s. each. Rheostat (if required), 5s. Cleartron Rectron valves, 12s. 6d. each.

"Megohm" is quite willing to answer replies regarding the eliminator provided a stamped addressed envelope is enclosed with each, and all questions set out on a sheet with space for answer. Questions must be put so that answers may be made as briefly as possible. Questions of general interest will be answered in this page for the benefit of others.

ANSWERS TO CORRESPONDENTS

(By "Megohm.")

Browning-Drake.

A Whangarei constructor has built the Browning-Drake 4-valve set and gets good results from New Zealand stations, but Australians only at 'phone strength. The valves used are not as specified, so that a little more trial and experiment must be expected before the best results are obtained, but that results will be good is certain. The primary and tickler turns are important and are only found by actual trial, in the case of the primary to suit different valves from those specified, and in the case of the tickler the number of turns to secure oscillation on the high wave-lengths, which means increasing the number of turns until this is effected.

The weakness of Australian reception appears to indicate a poor earth, and this matter should be investigated. The dry weather is coming on, and no earth connection is better than one or two kerosene tins with connecting wire soldered on, buried down several feet where the ground is always damp. Coke placed round the tin helps to attract and hold moisture.

The increasing loud note you mention is probably caused by microphonic valves set in vibration by the sound from the speaker, which causes "booming." The remedy is to turn the speaker facing away from the set and not to have it too near. The valves specified do not give this microphonic trouble.

R.L. (Christchurch) hooked up his Browning-Drake components roughly as a preliminary test and had surprisingly good results, both as to quality and volume. A few queries are now asked in connection with final construction. In the R.F. stage 201A is preferable to 199. A good combination for American 6-volt valves would be 201A, 200A (det.), 201A, and 112 or 171 power valve in last audio. Grid bias at 90 and 135 volts on 201A is 4½ and 9 volts; on 112 for same voltages 6 and 9 volts, and on 171 for same voltages 16½ and 27 volts.

Loudspeaker Connections.

S.W.A. (Waikato) finds that he has been running his loudspeaker for some time with connections reversed. Correct this and the plate current from your three-valve may slowly restore any strength of magnetism that has been lost, provided a choke filter is not in use, in which case no harm would be done either way.

The clattering sound you have recently noticed may be caused by small pieces of paper or other foreign substance that has found its way in and rests on the diaphragm. All speakers should be cleaned occasionally to get rid of such possible source of trouble. It can accumulate in time sufficiently thick to muffle sound when the space between the diaphragm and top cover is very limited.

Distance on Crystal.

J.A.J. (Christchurch) gets poor reception of 2YA on his crystal set, using carborundum crystal. Reception is nearly as good without earth as with it. The earth is evidently a poor one, and instead of using the water-pipe, bury a couple of kerosene tins with soldered connecting wire. 3YA can be received around Wellington on the "Record" crystal set with carborundum and no battery, but other conditions must of course be good for such distance on any crystal set.

A Wellington listener writes to know why he cannot get 1YA and 3YA on his crystal set on 2YA's silent night. The tuning coil of this set is wound upon a 3½ in. wooden former covered with celluloid, and then wound with 278 turns of 20's enamelled wire, the length of coil totalling 10 inches. A coil of such dimensions should be equal to any contingency, but in actual practice 200 turns could be dispensed with and the "dead end" losses caused by the extra wire would then be cut out. The inquirer should make up the "Record" crystal set as already described, 70 turns, space-wound on celluloid strips, using the wire he has. Let the slider work close up against one of the strips. It could have a notch filed in to allow it to rest on only one turn at once. These coils are more suitable for condenser tuning, in which case the number of turns would be about 50. Reception of 1YA and 3YA on a crystal near Wellington demands good conditions in every way, and much depends upon the situation.

Searching for KFON.

N.M. (Greymouth): It is impossible to give dialings for any particular set as varying factors alter readings. KFON is on 293 metres, so would be on a low reading, say about 30. KFON is three metres above Palmerston North's wave-length, and considerably below the old 2YK wave-length. Changes of wave-lengths are now being made in U.S.A., which will probably affect a good many stations.

The Children's Corner

By "ARIEL"

Dear Radio Children,—You will see that we are beginning our Pen Friends' Corner this week, so send along your names when you want to break out into letter-writing. We have also produced a Cross-word Puzzle at the special request of several Radio Children. I hope you will find it a nice easy one. The solution will appear next week, of course. What interesting Children's Hours we are having these days! I expect you all listen in as hard as ever you can. Which part of the hour do you most enjoy, I wonder. I think it would be rather difficult to say.

Who loves birds? Quite a number pay me a visit every morning. They sit in a row along the edge of the concrete path outside my window, waiting for crumbs from the breakfast table. There is one fat, round fellow who has always looked top-heavy. He seemed to be leaning against his next-door neighbour, and I thought what a lazy thing he must be, until one day I discovered that he has only one leg! And yet he is as nimble and quick as the rest and gets even more than his fair share of crumbs. On very windy days he is at a disadvantage—he can't stand still in one place for very long—the wind topples him over!

I have just had a letter from a little girl of 10 who lives far away in England. She tells me she thinks it must be dreadful to have Christmas in the summer, and she is so sorry for me because I don't have a proper

Christmas! Isn't she a funny wee soul? Of course, Christmas is just the same whether it is in summer or winter—the weather doesn't make a scrap of difference really—it's the "feeling inside" that counts. But I know just how she feels about it, because I spent all my Christmases in England when I was a little girl.

Here is a poem she sent me. I fear it is too good to be original, but I think some of our rising poets will enjoy it:—

CHRISTMAS ABROAD.

It would not be a bit the same,
Nor half as nice if Christmas came
In summer-time, in June or May,
It would not seem like Christmas Day.
No tingling frost, no shining snow,
And yet I'm told it's always so
With folks who live the other side
Of this round world at Christmas-tide.
If I were there, I'd not believe
'Twas Christmas Day or Christmas Eve
Should I look up and see on high,
A summer sun in cloudless sky.
I'd feel, just then, his burning face
Was just a little out of place;
And melted, all too soon, would be
The candles on the Christmas Tree.

What do you think of it? I wonder what my little girl friend would say to a dip in the briny or a picnic on the shore on Christmas Day?—Love to you all,

ARIEL.

Brother Bill's Recipes

(BY A FRANTIC FATHER.)

Oh! Brother Bill! Big Brother Bill!
You're standing on a precipice,
Broadcasting to our little folks
Fudge and toffee recipes.

Every little listener-in
Is trying each prescription,
The effect upon our pots and pans,
Beggars all description.

So keen are they to try their skill,
So filled are they with ardour,
There's never sugar for our tea,
Nor butter in our larder.

Our grocery bills are mounting up,
With sugar, raisins, honey.
They're still too young to realise
That all these things cost money.

From all their clothing every night
The sticky mess needs scraping,
And with all the chairs in similar plight,
Dad's pants are not escaping.

When we've finished eating dinner
We are fastened to our seats;
And find that we've been sitting on
Some most adhesive sweets.

The cat sleeps on the hearth-rug,
Then finds it cannot budge.
It's sticking most securely where
Someone's dropped some fudge.

The parrot sitting on his perch
Is trying in vain to screech;
He finds a lump of stick-jaw forms
An impediment to his speech.

Oh! for the past comfort of our home!
Through Brother Bill we lost it.
It's time we parents took a stand,
Our patience quite exhausted.

So Brother Bill, Big Brother Bill,
If you don't stop cutting
Our children into trying to make
Fudge, toffee, sweets, and icing.

Goaded to taking drastic steps
Your jocular vein we'll sever
And ensure that you go "off the air"
Or off the earth, for ever.

Don't treat this as an idle threat,
But as a solemn warning;
Or else you'll find some afternoon
You woke up dead that morning.

LIMERICKS.

When Dad made his first wireless set,
He sent out some howlers, you bet,
Till the people next door
Could stand it no more,
And now their nice home is "to let."

There was a lady of Gloster,
Who had a white cat and lost her,
She asked the Broadcaster
To make known the disaster,
And the cat was returned by a coster.

A wee girlie named Dorothy Whyte
On the wireless listened one night,
She listened until
She heard Big Brother Bill,
Then she said, "My word, this is all right."

There was a young man of St. Kilda,
Of wireless sets he was a builder;
His wife said, "My word,"
When Australia she heard,
But 4YA programmes most thrilled her.

WANTED—A PEN FRIEND.

Mollie Fisher, aged 13 years, Box 16, Gore, Southland, would like to write to a Radio girl-cousin in the North Island. Will any other Radio Children requiring pen-friends please send in their names, addresses, and ages.

GENEROSITY

Mary had a little cold
(She took it from her mother)
She didn't really want it much,
So she gave it to her brother.

He didn't keep it very long,
He lost it even faster,
The following day he went to school
And gave it to a master.

E. L. R.

THE RADIO EXPRESS

ANOTHER TRIP ARRANGED

DELIGHTFUL PROGRAMMES.

Children, did you hear the Guildford Terrace Choir sing at the Competitions? Well, on Monday, November 21, they will broadcast from 2YA some of their numbers to their many youthful cousins who will be listening-in. They are excellent, we assure you.

We know you all love Auntie Jo's stories, so of course Auntie Jo will be there with more exciting tales to tell.

Away, away up the East Coast! Hurrah for the Radio Express! A trip along the East Coast! What date? Why, Tuesday, November 22. Fleet-views of Palmerston North, Napier, Gisborne and many other delightful places. The Radio Express is very punctual. She leaves the station (2YA) sharp at 8 o'clock. What fun, little ones! Uncle Jasper and "Spot" on board, too, with a number of merry little cousins surrounding them.

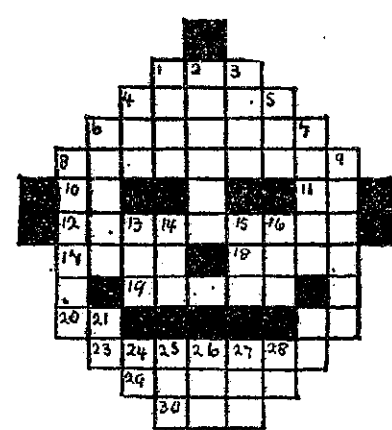
Isn't it kind of our cousins from Chilton House to give us such a joyous hour as they intend doing on Thursday, November 24? Such a variety of items they are presenting, too! Captain Duffy, another new friend, will have something very interesting to tell you, and Uncle Sandy will entertain you with more novelties. Such merry programmes, little folk, and all especially for you!

On Friday, November 25, another party of school cousins will entertain you. Oh, yes, they've been here before and given us such jolly songs and choruses. Between them and Uncle Ernest we can promise you a truly happy hour. We wouldn't miss it, and we know you won't. It is so good of our little cousins to come, and you will be there to welcome them.

This month the Junior Red Cross Circle has another splendid concert for you. The pupils of the Wellington East Girls' College will this time be your cousins, and they are to present many enjoyable items on the evening of Saturday, November 26. Amongst these will be a playette called "Midnight in the Vegetable Garden." Sounds very exciting, doesn't it?

Altogether, a very full and very delightful programme for the week, don't you think?

THE CROSS WORD CLOWN.



Here is a crossword puzzle for those who specially asked for one. It is a portrait of a clown, but is worked out just like an ordinary crossword puzzle. These are the definitions:—

Across.

1. A fruit.
4. A boat.
6. Conflict.
8. "An excellent substitute for butter."
10. For example.
11. A drink belched.
12. Answers.
17. A knot.
18. A throw.
19. A sail.
20. Therefore.
22. Either.
23. An English county.
29. A well-known boxer.
30. A poet.

Down.

1. To cultivate.
2. A baby.
3. The mark.
4. A conveyance.
5. A period.
6. A conveyance.
7. Ideal gardens.
8. Military dinners.
9. A season of the Church.
13. A lass with her tail clipped.
14. Exclamation of disgust.
15. Frozen water.
16. A grain.
21. A preposition.
22. All correct (slang).
24. Belonging to.
25. A tear.
26. Short for from.
27. Short for open.
28. Behold.

Mr. R. M. Brasted, National Secretary of the Y.M.C.A. in New Zealand, will talk to boys about boys during Big Brother's session at 3YA on Friday, November 25.

HIDDEN RIVERS.

There are twelve hidden European rivers hidden below. The letters in each case need to be rearranged, that's all. You may look at your maps for this.

- | | |
|----------------|---------------|
| 1. Henri. | 7. Sewer. |
| 2. Le Roi. | 8. Heron. |
| 3. A gull. | 9. Sue me. |
| 4. O sent me. | 10. Red pine. |
| 5. Set in red. | 11. Nerves. |
| 6. Biter. | 12. May dew. |

A BED-TIME STORY

THE FIRST THIMBLE.

Hundreds of years ago, in the days of the Crusaders, when all brave Christian knights and men went forth to the Holy Land to fight against the heathen, a little girl sat sewing in the courtyard of her father's castle in the sunny land of France. Her lady mother had given her a task of embroidery to finish before sunset, and Yvonne de Landes was working with all her might, for the close of the day was not far off. Indeed, she could see from her sundial on the castle wall that the summer afternoon was already half spent.

Now, in those days such things as thimbles did not exist, and Yvonne's second finger began to pain her as she untiringly pushed the needle through the stiff silk, not daring to pause lest her work should be still unfinished by sundown. Beside her was a silver cup filled with milk and a honey cake, with which to refresh herself during the afternoon.

At length Yvonne's finger grew so painful that she stopped sewing to suck the bleeding finger-tip. And then she noticed with dismay that a drop of blood had fallen on the embroidery. Tears filled her brown eyes.

"O dear, O dear," she sighed, "my work is spoilt, and, even if I have finished it by eventide, my lady mother will be angry with me. I wish my father were not far away in Jerusalem, for he never lets my mother scold me when he is at home."

As she sat sobbing she did not notice that an old man, wearing the hood and cloak of a Palmer, or pilgrim to the Holy Land, had crossed the draw-bridge and was standing before her.

"Little maid," he said, "will you give a poor traveller something to eat and drink?"

At the sound of his voice Yvonne looked up, startled.

"I dare not ask my lady mother for meat and drink," she said, "for she will be angry with me for staining my work; but, if you like, holy Palmer, you may have my milk and honey cake. I dare say I shall not feel hungry before the evening meal."

The Palmer gratefully accepted her offer, and, sitting down by her side, ate the honey cake and drank the milk in silence. In a little while he rose to go, but before leaving he turned to Yvonne, saying:

"Little maid, you will find a drop of milk left in your silver cup. Rub the stain on your work with it, and no trace will remain to grieve your lady mother. And, in return for your kind charity, I ask you to accept this little pink shell which comes from the Holy Land." The Palmer dropped a little pink shell into Yvonne's lap, and, taking up his staff, went his way.

Yvonne at once rubbed her work with the milk, and was rejoiced to see that the stain completely disappeared. She then examined the shell which the Palmer had given her. It was shaped like an acorn-cup and was covered with little dents like pin-pricks. "What a funny shell," thought the child, idly turning it over in her hand. Without thinking, she poked the tip of her sore finger into it, and it fitted like a little cap. "Why, this will stop my finger from being hurt by the needle," she suddenly thought, and, sure enough, on resuming her work she found that, not only could she sew without pain, but far more quickly than before. So easily did her needle pass through the silk that, long before sunset, she had finished her task. Her mother, coming down from her chamber, was surprised and pleased to find the work so neatly done and kissed Yvonne gently when bidding her good-night.

You may be sure that the little French girl was most careful never to lose the precious shell which was so useful to her, and always kept it ready in her pocket. She never saw the holy Palmer again, but she always remembered him with gratitude.

So that is the story of the first thimble. If Yvonne de Landes had not given her milk and honey cake to the old Pilgrim hundreds of years ago, perhaps—who knows?—we should never have had the little silver caps to protect our fingers when sewing, for it takes a very clever man to think of a very simple thing, and without the little pink shell to show the way, perhaps no one would have troubled to invent a shield for the second finger of a woman's hand.

A HIDDEN COUNTRY.

My whole in a country in Europe.
My 1, 2, 7 is an extreme point.
My 3, 4, 5, 7 is what you will be when you have solved this puzzle.
My 5, 2, 3, 1, 4 is in heaven.
My 4, 5, 6, 7 is the earth.
Which country am I?

A SENSELESS SENTENCE.

Who is good at punctuation? Can you put inverted commas, ordinary commas, and any other punctuation marks, and make sense of this sentence? Try and see:—

"If is is not is and is not is is what is it is not is and what is it is not is it is not is."

It is not really so hopeless as it looks.

A WORD CHAIN.

Here is something to keep you thinking for quite a long time. See how long a word chain you can make in this way.

HAS

ASH

SHIE

HER

IRA

RAP

You have to cut off the head of each word and add a tail to form a new word. Start with just any word of three letters you like and see how far you can get, only you must not use the same word twice in one chain.