

B. (Dunedin North).—As the circuit of the S.G. Browning Drake has come to hand it cannot be described in the "Record" until built up and tested. However, a print of the diagram will be sent you as soon as possible.

Set Works Without an Earth.

My set works just as well without an earth. Why is this?—H.S.T., Wellington.

There is something wrong. Examine carefully the earth lead to make certain that there are no breaks. If isolated there may be a break with the insulation. Try another wire earth. Examine carefully the joins of the set and to the earth, a connection may be at fault. Maybe there is connection to earth.

The set is a simple one, so that it is unlikely that internal causes

Questions and Answers

OWING to pressure of space, the "Beginners' Corner" and "Questions and Answers" are "amalgamated" for this issue. For the same reason several letters have to be held over. These touch interesting topics, and it is regretted that they cannot be published this week.

are operating to bring about this effect. However, examine carefully the wiring, terminals, etc. From the diagram it is impossible to track down the cause of the trouble.

Painting the Earth Connections.

"WOULD it be a good plan to paint a galvanised iron pipe with alum-

inum paint at the place of contact with the earth clamp, this to be done after pipe is cleaned well and before fixing clamp? My idea is to abolish periodic cleanings of the clamp and pipe. I am situated about five miles distant from the sea."—R.T., Seddon.

Paint contains a large percentage of oil, which is a non-conductor, so that paint becomes itself an insulator. Cleaning a place and painting it would be wasted time, for it would be merely scrapping off a poor conductor to replace it with a good insulator. Rather clean the pipe, put on the clamp, and having screwed the clamp down as hard as possible, paint it and the pipe with thick paint. Naturally, the pipe below the ground should not be painted if a contact is to be made.

Heavy on A Battery.

F.M., King Country, writes:—"My set is a factory-built 3-valve set. I should like to ask some questions:—

As this set is running on 80 amp. A battery down in about 45 hours. I should like to know if this is usual for a set this size, and if it can be altered without altering the volume or tone of the set?

The term "running down" is not defined, but it is taken to mean that after 45 hours' running the battery needs recharging. Were the battery to run down in the literal sense it would not last very long. The three valves in question together consume $\frac{3}{4}$ of an ampere per hour. This would give the life of the battery as over 100 hours, but no owner who wants his battery to last uses more than two-thirds, which should be the limit. This gives this owner 66 hours, and he is getting only forty-five but without knowing exactly what is being meant by "run down" this cannot be said to be the case.

Possibly there is bad insulation and the battery works longer hours than the owner imagines. The battery may not be coming up to its rated capacity, it may be old, or it may have been allowed to run flat and have shortened its life. If the owner decides that none of these factors apply then his safest plan is to replace his valves by others requiring less filament current. Good makes are on the market which do not impair the volume.

"Is it correct that a set with A+ and B— connected to the same terminal uses the 6 volts of the A battery in with the B circuit, and would altering the connections in any way reduce the power of the set?"

Yes; but the amperage taken by the B is so little that it will not materially affect the A. It can be overcome by connecting A— to B—.

"My set has never had more than very limited loudspeaker volume in the daytime, although at night it has come in with tremendous volume, but lately, although the daylight receptions have improved a little, at night I can hardly hear it at all, or only occasionally for a minute or so. It sometimes improves to a very good volume be-

tween 9 and 10, but not always. Why is this?"

This seems due to atmospheric variations, though rumour has it that certain stations vary considerably. With the approach of summer certain atmospheric changes take place, altering the characteristics of the wireless waves. This may possibly be the trouble. In this case we can't suggest a remedy.

"Why does the speaker ring when the music is very loud and clear? Why should the set go in occultation after it has been set for some time, sometimes 5 to 10 minutes after?"

The speaker ring spoken of is one of the inherent qualities of the fixed coil speakers. Only a limited amount of play is allowed the reed, so that when great volume is being handled this knocks against the magnet and causes various noises, sometimes rattle, mushiness, or ring.

"Radiation."

I HAVE a new method crystal set (as described in the last "New Zealand Radio Handbook"). On December 1 at 11.25 p.m., I picked up a station on (approx.) 200 metres at fair 'phone strength A piano solo was on at the time, an orchestral number preceded this. Reception was slightly blurred, and there was slight static. In "Our Mail Bag" in "Radio Record" of November 9, an inquirer asked if anyone had heard a station on 200 metres. No announcement was made between the two items.—"Christchurch."

"Getting strangers" on a crystal is most unusual, and one is inclined to think that it was a case of radiation, that is, the crystal set was tuned in to the same wavelength as a near-by valve set, and it was picking up some of the signals "overflowing" from the bigger set.

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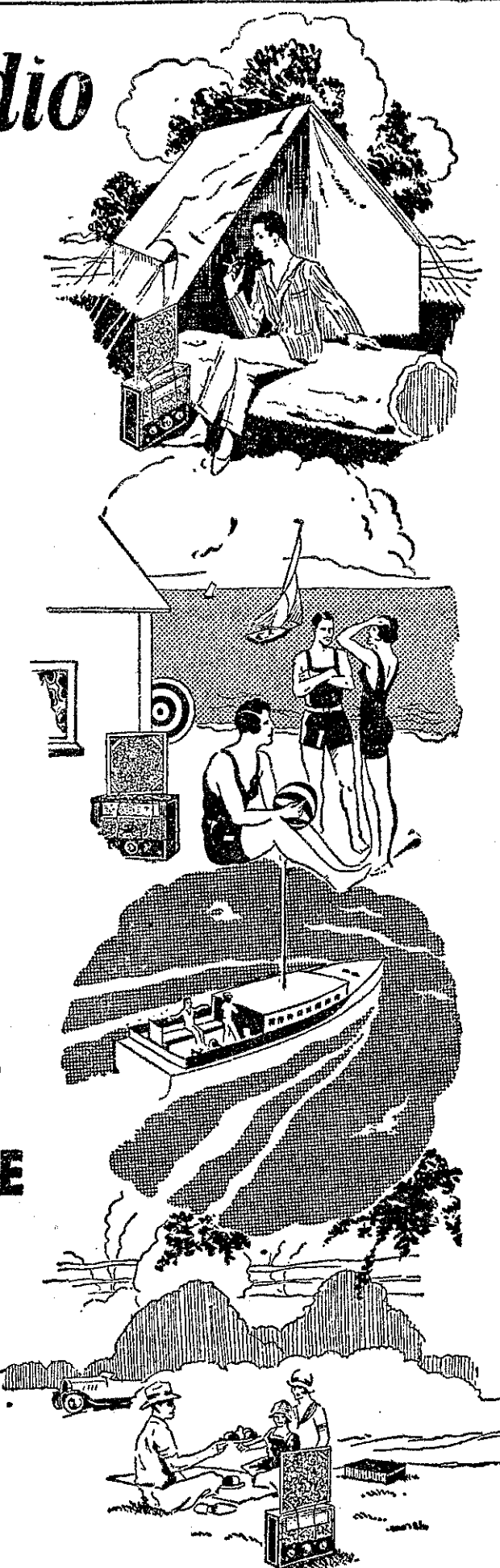
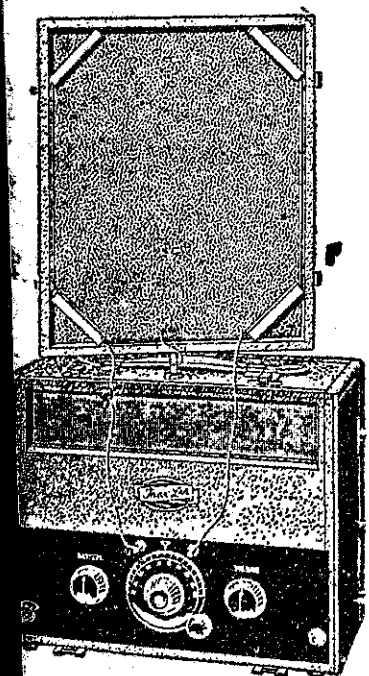
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