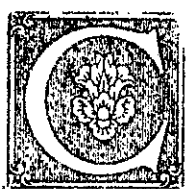


Hints on Securing a Good Ground



CONSIDERING the different types of ground connections it is found that these fall naturally into three groups.

- The town water supply or artesian well where the ground is already provided and the connection only is needed.
- The Pierce system and its modifications (see diagram).
- Earthed conductors buried well below the surface and kept damp.

THESE cannot be classified according to efficiency; so much depends on locality and on the nature of the soil.

The Water Pipe.

WHEN selecting this type the following points should be borne in mind:—

- Is there going to be a long connection between the ground and the set? If so, abandon it, for the Pierce system, or the earthed conductor with a shorter lead.
- If the pipe has to travel some considerable distance and has

at the end of the row of pipes, with its caps just above the surface, so that water could be poured into it.

Very good results have been reported by this system. It is particularly suited to moderately dry and heavy soils.

THE aerial, the surrounding air, and the ground, form one huge condenser, and the electricity carrying the signals from the transmitting station rushes backwards and forwards from the aerial to ground through the set. No one would think for a moment of using a condenser in the set of which the plates were of uneven size and haphazardly put together. Why, then, use such a condenser out of the set. An efficient aerial with an equally efficient ground is the first step to good reception.

Earthed Conductors.

THESE, with all their modifications, are becoming very popular, and correspondents have suggested many novel improvements. Notable among these are an old washing copper, with holes punched in it, to which is soldered the seven strands of 7-18th cable, sunk several feet in the ground, has been suggested by a writer from Khan-

Ground Lead.

THIS is equally as important as the aerial lead-in, and the points enumerated should be carefully watched.

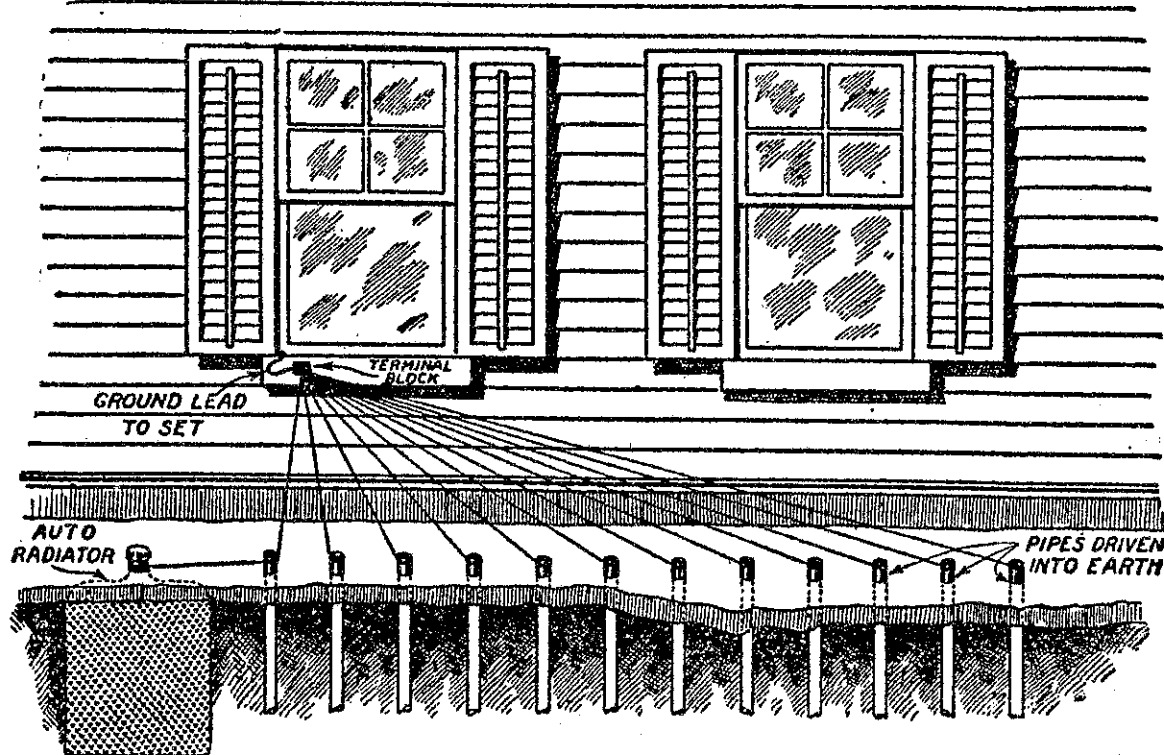
Every joint should be soldered, each lead soldered to the ground connections, but when water pipe is used this will be found different, so a special earth clamp should be used.

When the Pierce system is used, soldering to the pipes should be done before they are sunk into the ground. By employing the following method no difficulty should be employed.

Apply raw spirits of salts to which the soldering is to be done. With killed spirits, that is, spirits in which zinc has been dissolved, paint the wire to be soldered. Tin the galvanised pipe, then solder the two in usual manner.

It has been taken for granted that the beginner will make a perfect clean joint by filing the surfaces, rubbing them thoroughly with sandpaper.

IT is a good plan to look over your grid-bias plugs occasionally to ensure that they fit tightly in the sockets and are reasonably clean. (Loose-fitting plugs can generally be opened quite easily with a knife blade.)



many joints before entering the ground, it will be very inefficient, for a long lead is undesirable.

- If the pipe enters dry or sandy soil, a more efficient system would be the earthed conductor, as will be described.
- Other than a clamp, there is little chance of effecting a good connection between ground and lead.

Generally speaking sets are not near water taps, so that it very often pays to adopt a different type. If a water-pipe offends in any of these points it should not be pressed into use.

The Pierce System.

THE wire that leads from the ground connection on the receiver out through the window ends at a binding post on a porcelain base. From this post twelve wires lead to the same number of pipes or other pieces of metal embedded in the ground. A leaky automobile radiator used by the originator was sunk in the ground

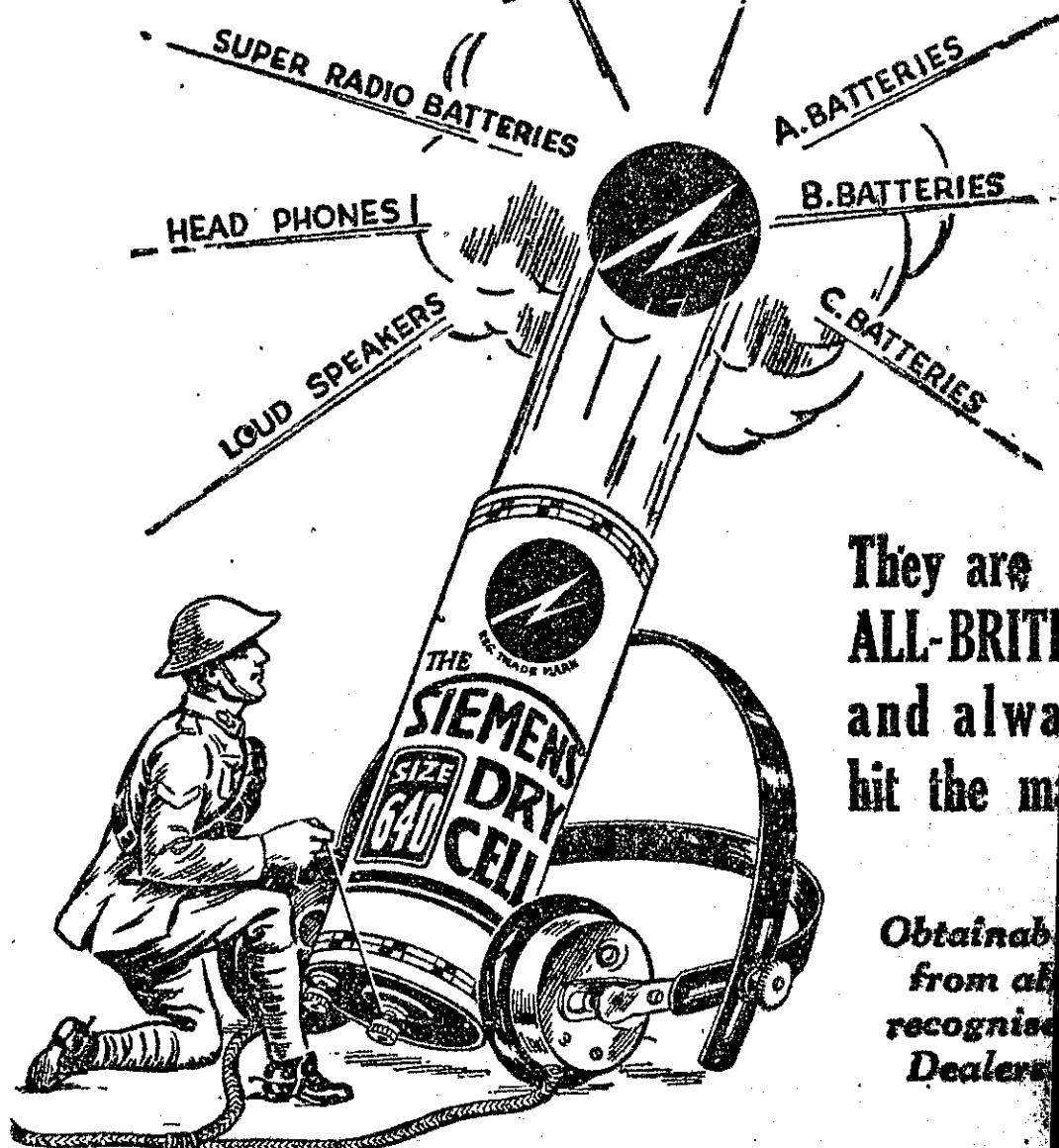
dallah. This would be improved by filling the copper with clinkers and installing a down-pipe to keep the clinkers wet. A lavish supply of water improves reception.

Another suggestion comes from Picton. This correspondent suggests a drum sunk deeply into the ground and kept filled with water. A modification is a closed kerosene tin, to which is soldered a down-pipe, in order to keep the tin filled with water. To this can be soldered the lead to the set.

Another idea was suggested to the writer by a resident of Trentham, but the application of this method may be restricted to a lucky few. A kerosene tin of empty brass rifle shells had been collected, and well earthed, and arrangements provided so they and the surrounding ground would be kept continually damp.

There are many other methods, for instance, coiling a bare wire and burying it in a damp place. A bed of a stream is quite a good place for an earth, providing a short enough lead can be used.

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