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| \$30.00 | 34x4               | \$25.75 |
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## OLE'S TIRE SHOP

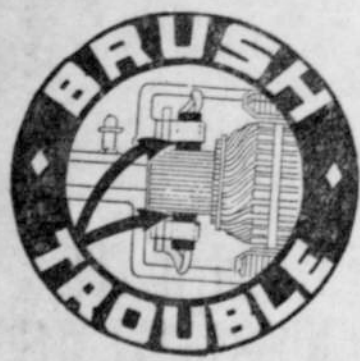
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## RADIO

### BODY CAPACITY IS CAUSE OF ANNOYANCE

Methods by Which Its Effects May Be Avoided—Possible Reasons for Fading Signals.

Questions have been asked regarding an apparent phenomenon in tuning. The phenomenon in the case is that just as the operator tuned in his station and removed his hands from the knob, the signals faded out; or it may have been the other way around, and if the operator touches his set while listening to a concert, the signals will fade out.

This may be caused by body capacity, and while some stations run into it quite frequently, others are not bothered at all. Those living close to a broadcasting station will never be bothered with it as it only occurs with a very close tuning. It is explained by the fact that the capacity of the body coming in contact with the set, which is very finely tuned, is thrown out of adjustment by the outside inductance.

There are several ways to guard against it, and one of the best is to line the inside of the panel with tin foil or aluminum foil and ground it. In pasting the tin foil on the back of the panel, it is cut away from all binding posts, switch points or rods to prevent short circuiting the set. There is one exception to this, and that is the ground binding post. If the tin foil is pasted over this, it is, of course, automatically grounded.

Shells will do to make the foil adhere to the panel, which will not have to be dismantled to be lined, as the foil can be placed on in small strips. Another method of remedying the effects of body capacity is by using metal dials on the variocoupler and variometers; and in sets where the variometers are very close to one another, moving them away will help. Or in case it is not desired to change the set, placing a nonmagnetic material between the variometers which are close to each other and grounding it will remedy the ill effects. For this case, a piece of glass such as photographers use, covered with tinfoil on one side, is effective.

Fading signals have long been encountered by amateurs when receiving long-distance stations. In this case, the signals from a goodly distance away may be coming in loud and clear and then without warning fade away. In a few seconds they may return with all their force, and then when the amateur is congratulating himself, again the voices or music die out. Or fading may take the form of varying intensity of signals, one minute the operator being forced to strain his ears to catch the sound while the next voices may be loud and clear.

There have been many theories advanced for this phenomenon, and we are giving today two of the latest. The radio division of the Department of Commerce is reported to be under the impression that fading occurs when a cloud passes between the transmitting station and the receiving set. This theory has been one of the most popular among the experts, and recent tests have been made to obtain more complete data. If the passing cloud theory is a good explanation of fading there will be some new radio development very shortly. The effects of various types of clouds upon the signals is being studied, and the results of this study will be of interest to everyone interested in radio. Government officials are interested in eliminating fading, or overcoming it as much as possible, largely from the standpoint of the amateur, as the commercial stations, having much greater power than amateur sets, are able to overcome the atmospheric effects to a great extent.

The other theory, which has a close relation to the cloud theory, is that fading occurs when the signals pass through an area where rain is falling. In this theory, the idea is brought out in a different manner. It is stated in effect that clouds are a benefit to the signals, but that the rain will hurt them. The theory is that the condensation of the particles of moisture in the air which form the clouds has the property of making this medium highly conductive to radio signals. Just before a storm when there is more condensation in the clouds, the signals should be at their strongest. When the storm breaks, and the air becomes saturated, the condition is said to change and the falling rain actually grounds the signals. This sudden change in atmosphere is stated as the reason for the varying intensity in the signals.

An approximate method of measuring the antenna resistance is by means of a condenser and a calibrated 25-ohm resistance unit connected in series. This so-called phantom antenna is then connected with the antenna and ground circuit to a double pole, double throw switch, so that the output of the transmitting set can be connected either to the antenna and ground or to the phantom antenna circuit.

To find the antenna resistance at any wave length, first tune the set to the desired wave length with the transmitter connected to the antenna and ground and note the antenna current. Throw the output of the transmitter on the phantom antenna circuit and adjust the resistance and capacity until the antenna ammeter shows the same reading. The value of the resistance in the phantom circuit is the approximate antenna resistance at that wave length. This method of measuring the antenna resistance is by no means accurate, but will serve as a value from which comparative data can be obtained. By plotting a curve representing the antenna resistance at different wave lengths it is possible to determine whether the antenna being used has its minimum resistance at the wave length on which the transmitting is done.

Perhaps by changing the physical dimensions of the antenna the minimum resistance can be shifted to the wave length on which it is desired to transmit.

If a counterpoise is not used, the effect on the antenna resistance can readily be measured, approximately, by erecting a temporary one and measuring the antenna resistance before and after the erection. Again it is well to plot a curve showing the relation between the wave length and antenna resistance.

In no case will the curve showing the relation between wave-length and antenna resistance be smooth. Don't allow bumps in the curve to lead one astray. The absorption of energy by some nearby object will cause the antenna resistance at certain wave lengths to show fictitiously high wave lengths.

### COLONEL GREEN A RADIO FAN

Son of Hetty Has an Elaborate Apparatus at His Home in New Bedford.

Round Hills, the country home of Col. Edward H. R. Green, son of the late Hetty Green, at New Bedford, Mass., sounds like a haunted estate since its owner has been bitten by the radio bug, says the New York World.

In the sun room of the house stock quotations, weather reports, music and speeches flow all day from the receiving station there. In the boathouse come the booming tones of the amplifier.

That's all there is now, but Colonel Green has not done yet. Within a few days his new six-room studio, housing the most complete broadcasting station in the country, will be finished.

Colonel Green is not enjoying his radio pleasures alone. The first try-out of his truck was made a few days ago, and it went rolling about the neighborhood reeling off concerts and talk from Newark and Schenectady for the delighted farmers.

But the amplifier is the colonel's pet. This is just such a machine as was used to make President Harding's inaugural address audible to the 125,000 gathered about the capitol. At Round Hills the sound will be plainly heard over a radius of five miles.

"Anybody who has a set of two good ears has all the required receiving apparatus," the colonel says. "I'm so interested in this thing that I haven't time for anything else. I'm like a child with a new toy, who can't be induced to put it down."

### TIPS TO THE RADIOIST

Radio concerts are being given in public parks all over the country.

An international union of radio operators has been founded in Brussels.

A boy in Plainfield, N. J., has built a radio set the size of a match box.

Radio concerts are proving of decided benefit to inmates of institutions for the insane.

In Montana radio is furnishing entertainment to the oil well drillers during their idle hours.

The most northerly wireless station on the globe is probably at the village of Noorvik, just inside the Arctic circle, with a population of 399 Eskimos.

An Oklahoma doctor who has a large number of hospital patients maintains a radio outfit on his automobile so that he can be instantly reached if needed at the hospital.

In the case of the new receiving apparatus that goes on the throat another slang phrase becomes legitimate. To say "He got it in the neck" now means receiving radio.

Mr. Edison took out a radio patent as early as 1881, but he says it is difficult to say who should be called the inventor of the wireless. He thinks it has just been "built up."

Another feature of radio has come to light. In these days of the dry dinner guests are able to remain comfortably at home and hear the after-dinner speeches, cutting them as short as may be desirable.

Cattle are now skinned by electricity. New as to cattle, perhaps, but many radio fans have been skinned by sellers of phony stock for some time past.

The United States naval observatory sends time signals to Australia by radio.

It is now said that communication with Venus would be entirely within the realm of possibility were it not for the great cost. Dr. Abbott reports that the cost of sending radio waves to Venus would be enormous. That planet reflects light as if it were surrounded by clouds and all conditions indicate intelligent life.

### MISSOURI LEADS ALL STATES

Some Interesting Facts Reported From Various States on Tuberculosis Eradication.

Prepared by the United States Department of Agriculture.

Reports to the United States Department of Agriculture on tuberculosis eradication in the various states contain some interesting facts on the progress of the work. For example, it has been found that Missouri leads in testing on the co-operative plan, with a total of 18,967 herds, containing 197,679 cattle, tested during the last fiscal year.

A federal veterinarian located in Iowa found more reactors during the year than any other co-operative veterinarian.



Few Dairymen Object to Having Their Herds Tested Nowadays.

erlinarian. He tested 7,747 cattle, and found 1,968 diseased animals.

The record for the largest number of cattle tested goes to an employee of the state of Missouri, who tested 14,512 cattle in 1,336 herds. Second on this list was a veterinarian hired by Shelby county, Iowa, who tested 722 herds, containing 1,120 animals.

A veterinarian of the bureau of animal industry in eight months and twenty days tested 11,825 cattle in 983 herds. This is a monthly average of 1,594 animals tested. The record is remarkable when it is known that the cost was only 18 cents a head. The cost per head for the animals tested by the entire force in Missouri was 28 cents. Area work has been done as low as 15 cents a head.

### Raising Fall Calves.

The advantage of raising fall calves is that they are ready to put out to pasture and will continue to grow, and will not suffer from a setback, as do many spring stock.

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