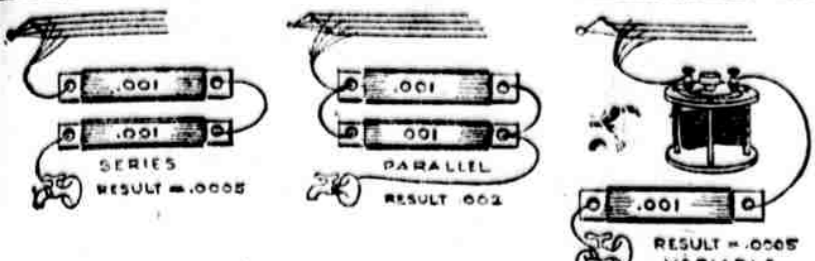


RADIO IN THE HOME

By HENRY M. NEELY



If you don't happen to have condensers of the exact capacity called for in a certain hook-up, two or three of those you have can be arranged together to give you the desired capacity. This picture shows how it is done.

Some Ways of Using Condensers

You have learned that a condenser is a tank in which we store up energy to make electric currents in our radio set. Now it is wise to consider, for a few moments, some of the ways in which we can use condensers to get various effects.

When we store up water in tanks, we measure it in gallons and quarts and pints and gills. We are so accustomed to speaking of those measurements that it never occurs to us that there is anything difficult in the names.

We say that 500 gallons is the capacity of a tank. We also speak of the capacity of a condenser, which is the storage tank of the radio set. But we do not measure this capacity in gallons. We measure it in units that scientists call farads. You need not bother to know just how much of what a farad is. Mightily few of us could really give an intelligible definition of it. But the farad is the unit of measure of the capacity of a condenser—of its ability to store up energy before it overflows and sends electric currents rushing through the wires.

But the farad is too big a measure to use with the small condensers employed in radio apparatus. We use a subdivision of the farad called the micro-farad, which means one one-thousandth of a farad.

Your 43 plate variable condenser stores up, at its greatest capacity, only one one-thousandth of a micro-farad. In other words, its capacity is one one-thousandth of one one-thousandth of a farad.

The word micro-farad is usually abbreviated mfd. And, when you write down the capacity of your 43 plate condenser, you write it .001 mfd, which is speaking of one one-thousandth of a farad as "double-oh one." Your 23 plate condenser has only half that capacity so we write it .0005 and call it, in talking about it, "triple-oh five."

In the illustration, there are shown some ways of "hooking up" two condensers to get different capacities. In some diagrams printed in the radio magazines, you will see that you are to use a .0005 condenser. Perhaps you have none of this capacity but have two of those near little thirty-five-cent .001 condensers known as "phone condensers." If you hook them up in what we call "series," you will make the total capacity of the two just half what one is. In other words, your two .001 condensers will take the place of one .0005 condenser.

"Series," as shown in the illustration, is like driving two horses tandem—one ahead of the other. If you follow an imaginary radio impulse from the aerial down in the illustration, you will see that it must first pass through one condenser and then through the other to reach the ground, as represented by the spiral.

Now suppose your diagram called for a condenser of .002 micro-farads. You would take your two .001's and join them as shown in the second part of the illustration. This is called "parallel." The electric energy comes down from the aerial, goes into both condensers at once and comes out of the other end of both at once and so to the spiral. Hooking up condensers in parallel adds the two capacities.

You might think from this that two condensers in series would just make the capacity half, but this is so only when they are of the same capacity individually. A series of condensers has a total capacity that is not very hard to figure, but it involves a mathematical formula that we won't go into in these articles. The third illustration is just a suggestion for the man who has a .001 variable condenser and a 43 plate kind, and finds he has a diagram which calls for a 23 plate one. He can simply take one of his fixed condensers and put it in series with his 43 plate and the result is a very fair imitation of a 23 plate condenser, or .0005 variable.

And, if you have a 23 plate and need a 43 plate, hook up your 23 plate with a .0005 variable condenser, according to the middle diagram, and you

Found Dead in Bathroom
After going upstairs to the bathroom in her home, 1329 North Twenty-eighth street, about 2 o'clock yesterday afternoon, Mary Degen, forty-three years old, failed to return. Her sister investigated several hours later and found the woman dead. A gas jet was open.

BIG EVENTS OF BOY WEEK
The Week means lots of fun, games, races, sports, and a lot of everything. The Boy Scouts have been busy preparing for the week of the 17th and 18th of May. They are to hold the following events: (1) A race every day. (2) A game every day. (3) A habit every day.

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Variable Condensers, 23 Pl., \$2.50
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Save Ben-Gay at any drug store and you will get a tube of the original French Baume Benguë (Analgésique), then apply as follows: rub the Baume on the chest and cover with warm flannel cloths—repeat as often as may be necessary. Keep a tube handy for Sore Throat.
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Out-of-Town Patrons Should Order by Mail 77c
FRANK & SEDER
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There are sizes here to fit every woman—especially a large assortment of those hard-to-get LARGE sizes for stout women. 77c

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17,500 feet of floor space devoted entirely to this Sale. Last year we sold over 35,000 of these high-grade Aprons in One Day. And all through the Summer we were forced to duplicate orders to accommodate customers who bought these aprons by the dozen. THIS SALE abounds in even Greater Values! Better quality aprons, prettier styles and greater assortments.

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Buy Four for \$3.08 Buy Six for \$4.62 Buy Twelve for \$9.24

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TOMORROW—THURSDAY