

### COTTON CROPS ARE SHORTER

Corn and Forage Shortest in Years Because of Weather; Cotton Crop Short.

Anderson.—S. B. Byars, county farm agent, has issued the following statement on the condition of crops in this county:

"The farmers of Anderson county are not so optimistic over the outlook as they have been for the last several years. The cotton crop is shorter than it has been for many years. This is due to too much rain in the early spring, which caused the cotton plants to develop weed largely instead of fruit. Then followed nine weeks of drought, which caused heavy shedding, leaving only a few scattered bolls and a middle crop. This drought was broken by 17 days of continuous rain, which has caused serious damage. All of the cotton that is opened and out on the ground is sprouted and a large number of the open bolls are rotten. Boll weevils have punctured the top bolls and many of them are rotted, due to the water reaching the inside of the boll through the punctures.

"The corn crop is the shortest we have had in many years. The early planted corn had sufficient water to produce a good crop, but the late planted corn was caught by the drought and will not produce more than a half crop. Most of the corn in this county is planted in May and this was seriously damaged by the drought.

"Forage crops are hard hit by the drought. Early cutting of alfalfa were good but the late cutting were short, while pea vines and other forage crops are almost a failure.

All of this indicates that the farmers are not only hard hit this year but face next year with short food and feed crops. However, there is every indication that a large acreage will be planted to oats and vetch and other winter crops which will go a long way toward relieving the feed shortage.

"Crimson clover and hairy vetch seed are cheaper than they have been in years. One of the largest acreages of these crops that has ever been planted in the county is being put in. The value of these crops has been forcibly brought to the attention of our farmers this summer. Corn and other crops following clover and vetch have stood up wonderfully well under a long continued drought and are producing good yields.

Jury Exonerates Member of Crew. Newberry.—A coroner's jury recommended that no criminal action be taken regarding the death of the five members of the section crew, who were killed about one mile north of Peak Monday afternoon when their railway motor car crashed into the engine of No. 66, freight train of the Southern Railway company.

Drink Coffee Hidden Years Ago. York.—Coffee that was a relic of Confederate war days, it having been packed in a tin box and hidden away during that time of stern privation, when anything in the way of edibles beyond bare necessities was deemed a downright luxury, was the patriotic drink that stimulated those who attended a meeting of the Winnie Davis chapter, U. D. C., held at the home of Mrs. G. W. S. Hart here. The historic coffee was presented Mrs. Hart 24 years ago by the late N. B. Bratton, one of York county's gallant soldiers in the drama of the '60s, whose devotion to the Star and Bars was so unflinching that for him everything connected with the great conflict possessed an abiding charm.

Carolina Student Killed in Wreck. Anderson.—C. C. Owen, University of South Carolina student, died within a half hour after he was brought to the University sanitarium, from injuries he sustained in an automobile accident, which occurred on the highway leading to Hartwell, Ga., about 15 miles southwest of Anderson. Young Owen received a crushed skull and several fractures of the right leg as a result of the mishap.

According to reports, Owen and two other young men, also student of Carolina, were hiking to Athens, Ga., to see the football game between the Gamecocks and the University of Georgia, when they caught a ride with Du Bois Boylston, Charlie Cate, Benny Smith and Pinckney L. Cain, who were en route to Athens in a large coupe. The three men got upon the machine, Owen on the left side and the other two on the right. After the car had gone about a fourth of a

mile under its excessive load, the machine swerved into an embankment, righted itself and then overturned, pinning Owen beneath it.

Approve Bond Issues. Spartanburg.—Spartanburg voters have approved of a bond issue of \$1,350,000, which will enable the city to expand its water supply system.

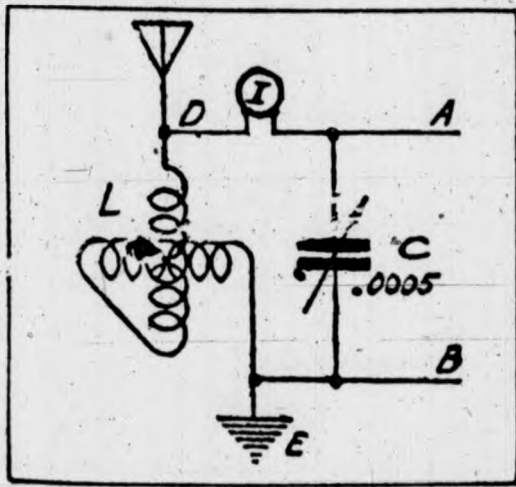
The legal steps necessary to arrange for the issuance of the bonds will be instituted at once and plans for future development of the local water supply system will be pushed as rapidly as possible. Superintendent R. B. Sims announced that the projected new plant on South Pacolet river will probably be in operation by January, 1926.

# RADIO

(Edited by G. Douglas Wardrop, Editor of Radio Merchandising.)

By F. H. ARMSTRONG

A vibrating wire has mechanical properties almost analogous to the electrical properties of a radio receiving circuit. If a wire is placed between two points and plucked it will vibrate at a particular rate, no matter how vigorously it is plucked. If the resistance is small, due to friction both



How the Tuner is Connected to Aerial and Ground.

inside and outside the wire, then the wire will respond most energetically to an impinging sound vibration of a frequency which is the same as the frequency at which the stretched wire vibrates when plucked and then left to itself.

Suppose that we have a tuner connected to an aerial and ground, as shown in the accompanying diagram. Suppose further that this tuner is adjusted to a wave length of 370 meters, or, in other words, that it will respond to this wave length. Our desire then is to see whether this is a good tuner or a poor one.

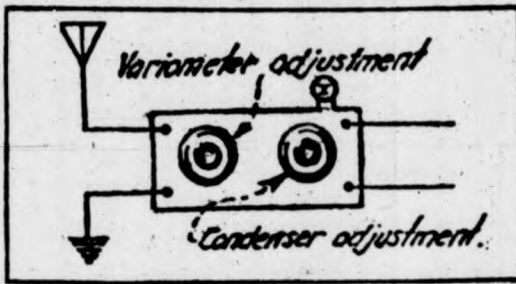
One of the Tuned Type.

Suppose that the condenser "C" and the variometer "L" are so adjusted that the instrument is tuned for the wave length of 370 meters, as mentioned. Then suppose that we could put a very sensitive indicating device in the circuit, say an ammeter as shown in "I." This ammeter reads in units of electrical current. Then, by causing the antenna to be struck by radio waves of lengths both short and long, we have a chance to observe the effect on the ammeter in what may be called a tuned circuit, as represented by the condenser, variometer and the connected wires. This tuned circuit is

very similar to that of the behavior of the vibrating wire. To be sure, the ammeter would have to be a sensitive device, so let us suppose that we have such a one on hand. Then for a given signal strength, if we measure the current produced in the incoming circuit for various frequencies, we will obtain a curve.

Detector Connection Important.

In a receiving set the two wires connected across the condenser C marked A and B are led to the detector, and the effect of the detector depends upon the difference in electric pressure between the wire A and B. Further, for a given setting of the variable condenser C at a given wave length the pressure is dependent upon the amount of current flowing through the condenser. It is of advantage then to make this current as large as possible in a given circuit, and it is accomplished by making the resistance as small as possible. A tuner having a low resistance at radio frequency will give a very sharp or very peaked curve when it is tuned to the particular wave length wanted. If the resistance is high the tuning is not at all sharp. If the frequency varies by 25 or 50 meters on each side



Showing the Variometer and Condenser Adjustment.

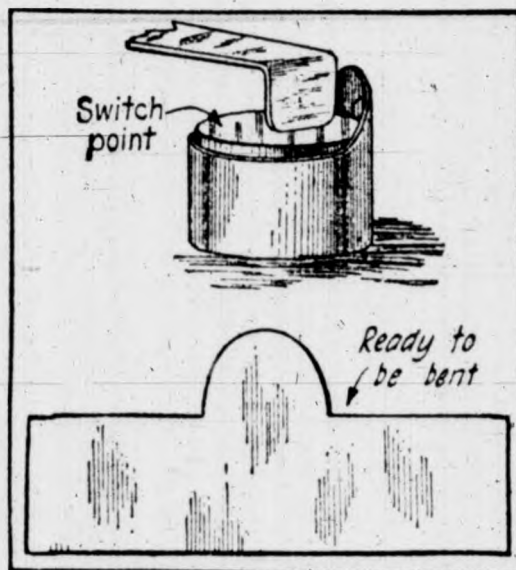
of resonance very little change is produced.

Tuning Not Sharp.

First, the tuning is not sharp, and second, the effect on the detector circuit is greatly reduced. It would not be so undesirable if it were only the decrease in the signal strength, because we could probably hear signals in the phones even though they were not strong, but it would be extremely bothersome to hear a great variety of signals produced by waves of different lengths which the circuit is incapable of eliminating, and which could be eliminated by a better tuner.—New York Sun.

### Simple and Efficient Switch Stops Easily Made

Switch stops are mighty cheap, but they can, however, be considerably improved, as there are several faults with the ones now on the market. Herein is described a system of constructing switch points which will prove extremely simple and efficient as stops. They can be made of thin sheet brass, copper or tin and it requires but a few moments to make them; when made properly they will not de-



Neat Switch Stop Is Made From Piece of Sheet Metal.

tract from the appearance of any set. The idea is (as may best be seen by the drawings) to cut a thin piece of metal so that it is as wide as the head of the switch points are high, and as long as the circumference of the points. A place should be left in the center, bulging up in the shape of a semi-circle. The piece of brass should now be bent tightly around the switch point where the stop is required. These switch stops will be found very neat in appearance, can be put on without drilling holes in the panel and can be removed at any time so that the switch point may be cleaned or the tension of the switch lever adjusted.—Radio News.

### Water Pipes Better for Grounds for Radio Sets

Gas pipes have been forbidden for use as grounds for radio sets by the underwriters. If the pipe should happen to leak and if a spark should happen to jump at that point, then it would very likely ignite the gas, with perhaps disastrous results.

Water pipes make far better grounds than gas pipes, for the reason that they carry water and there is always a certain amount of leakage and moisture around them in the ground, which is ideal for a radio set. It is always best to connect the ground on the pipe before it enters the water meter from the street mains.

For Clear Reception

A .001 fixed condenser from the grid leak on the secondary of the second audio-frequency transformer to the negative side of the filament of the first tube will give clearer and sometimes louder reception.

### Your Amplifiers Would Do Better Work If—

You would use the proper transformer on a certain tube.

You would ground the cores of the transformers, even if they are shielded, separate the transformers about 3 or 4 inches and place the cores at right angles to each other.

You would not apply more than the specified voltage on the plates of the tubes.

You would use a lower ratio transformer for the second stage, if the second stage amplifying tube is the same as the first.

You would use a five-watt tube for the second stage, increase the B battery voltage and use the proper C battery voltage for this tube.

You would see to it that the proper voltage was being applied to filaments of the tube.

You would make all the connections perfect joints, and well soldered.

You would see to it that all the connections between the tube prongs and the socket contacts are perfect.

You connect the grid and plate to the proper leads of the transformer, i. e., when the outside lead of the primary is connected to the plate the outside lead of the secondary should be connected to the grid.

You shunted the primary of the first stage with a fixed condenser of about .001 mfd.

You shunted both the A and B batteries with a large fixed capacity, say, .5 mfd.

Have you ever considered how much longer you could use the storage battery before recharging it—

You would not demonstrate the power of the battery by short-circuiting the terminals and showing the heavy spark you can thus obtain?

You would make perfect connections between the filament leads and the battery terminals?

### Way to Make Grid Leak That Will Give Results

A very satisfactory home-made grid leak may be made by scraping off the wax between the terminals of a Dubilier mica-don condenser and filling this space with a light coat of India ink. The resistance of a grid leak of this type may be varied by applying a thicker coat of ink or by scraping off the ink. The grid leak has the correct resistance when the tube goes into an oscillating state with a hiss rather than with a whistle or squeal.

Aerial for Crystal Set

A crystal detector depends upon the strength of the received signal voltage for its operation. If the voltage is weak the received audio frequency sounds are either weak or not heard. For this reason the aerial for a crystal set should be as long as is possible. Because the long aerial will pick up a signal more efficiently than a shorter one and will consequently impress a greater voltage upon the crystal detector.

## IMPROVED UNIFORM INTERNATIONAL Sunday School Lesson

(By REV. P. B. FITZWATER, D.D., Dean of the Evening School, Moody Bible Institute of Chicago.) (©, 1924, Western Newspaper-Union.)

Lesson for October 19

### THE PARABLE OF THE SOWER

LESSON TEXT—Mark 4:1-20.

GOLDEN TEXT—The sower soweth the word.—Mark 4:14.

PRIMARY TOPIC—The Garden of the Heart.

JUNIOR TOPIC—Good Soil for Good Seed.

INTERMEDIATE AND SENIOR TOPIC—How to Receive and Use God's Word.

YOUNG PEOPLE AND ADULT TOPIC—How May I Improve the Soil of My Heart?

The method of teaching by parables was not employed by Jesus until the rulers had set their hearts against Him. When, in the light of His wonderful works, they turned against Him and attributed His works to the Devil (Mark 3:22) He denounced them in scathing terms and began to teach them by parables in fulfillment of Isaiah 6:10. The parabolic method of teaching makes clear the truth to those who love it and conceals it from those who dislike it.

A great multitude gathered to Him at the seaside (v. 1), so that, in order to escape the pressure of the crowd, He was obliged to enter a boat. From the boat as a pulpit He taught many things in parables. In this parable the sower and the seed are the same in all instances, but the results are entirely different. The difference lies in the condition of the soil. The central purpose of the teaching of this parable is to show that the results of preaching the Word depend upon the condition of the human heart.

I. The Wayside (vv. 4, 15).

The wayside means the track beaten down by the hoofs of animals and the feet of men. Because the soil was unbroken and uncultivated the seed could not get beneath the surface, therefore was devoured by the fowls that came along (v. 4). The great truth taught here is that the heart unbroken and hard is not fit soil for the Gospel. Such a heart it penetrates not, but lies loosely upon the surface. It is not recognized as God's means for restoring them unto Himself. While in this condition the evil one finds some way to snatch away the truth. The fowls that devour the seed represent the agents of Satan (v. 15).

II. The Stony Ground (vv. 5, 6; 16, 17).

This means not stones mixed with soil, but stones with a thin layer of soil on them. With such conditions a seed springs up quickly and likewise scorches quickly, as it has not much depth. The great lesson is that hearts superficially impressed receive the Word with joy, but when affliction or persecution arises for the Word's sake, immediately they are offended. They wither away and die.

III. The Thorny Ground (vv. 7; 18, 19).

In this case the ground is good, but has thorns in it. It is mellow enough and has sufficient depth, but has not been cleaned of the thorns. Such really hear the Word, but "the cares of this world, and the deceitfulness of riches, and the lusts of other things entering in, choke the Word, and it becometh unfruitful" (v. 19). The thorny ground hearers of this age are those:

1. Who are so immersed in worldliness, business and anxious cares that the good seed cannot mature.

2. Who are rich. Anxious care in business brings riches and the effect of riches is to blunt the spiritual perception of men and women, thereby rendering them unsusceptible to the call of God, to higher things in life.

3. Who are running after the pleasures of life. All these things choke the Word. Many of the enjoyments of the world may be innocent in themselves, but they attract so much attention and consume so much energy and time that one has not time for Bible reading, meditation and prayer.

IV. The Good Ground (vv. 8; 20).

This ground differs from all the rest. It is soft and mellow, deep and moist; therefore, is capable of bringing forth fruit, some an hundred, some sixty and some thirty-fold, indicating different degrees of fruitfulness even of the good ground. In the measure that the heart is kept free from worldliness, riches and pleasure, the good seed matures.

Blaming Nature

You fall into the very common mistake of charging upon nature matters with which she has not the smallest connection, and for which she is in no way responsible. Men talk of nature as an abstract thing, and lose sight of what is natural while they do so.—Dickens.

Opportunity; Responsibility

If God writes "opportunity" on one side of open doors, He writes "responsibility" on the other side.—J. T. Greyc, D. D.

His Kingdom

The Lord uses all the forces of nature in building His Kingdom.—Evangelical Teacher.

The Candle

The candle cannot shine unless it sacrifices.—Echols.

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