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

B. Batt. 38 to 45V

Diagram That Introduces a New Field of Selectivity Into the Multi-Audi-Plex Circuit. Will Interest All Radio Fans.

## By LEON W. BISHOP

the wonderful selectivity and volume local interference.

new field of selectivity into the multi- cuit is the UV201A, although the C301A, audi-plex circuit. Directions should UV199 and C299 tubes may be used. be carefully followed in regard to the tuning coil TC. Procure a four-inch 45 volts, depending upon the tube dry cardboard tube. Use no shellac or | characteristics. any compound whatsoever on this tube. Wind this tube with 50 turns of No. 20 or 22 double cotton covered wire. A tap is taken at the fortleth turn,

twelve and fifteen turns in the antenna | VC must be connected to the ground. circuit. This, under local interference, peints.

## Connecting the Taps.

By punching holes in the tube and kept as short as possible. drawing the wires through, you will eliminate the use of shellac or any other kind of goo.

The variometer V may be of any standard make on the market.

The grid condenser should be of the mica type and have a capacity of .00025 mfd. The grid leak should be ohms, a nine megohin grid leak being used for local reception. Do not out on variable grid leaks. It is much

type of condenser. Here I might say, York Sun.

condensers that are advertised as hav-Those who became interested in the ing exceptionally low dielectric loss

multi-audi-plex circuit have spoken of would be best applied in this circuit: The rheostat should be 30 ohms, and

on distant stations through tremendous connected in the negative side of the A battery. Here is a diagram that introduces a The best tube for use in this cir-

The B battery should be from 38 to

The bypass condenser should be .002 mfd., and preferably of the mica type.

Connecting the Circuit. In connecting up the circuit, it is which is connected to the plus side of best to have the variable condenser. the tube filament and also is grounded. on the left hand side of the panel, the Starting from this fortieth grounded variometer on the right hand side of tap, tap every three, turns until the the panel, the switch taps below in the y-fifth turn, which will leave five center of the panel. The rheostat may 198. This switch S, is connected to be placed in the center, high on the panel. A panel 7 by 9 should be used. With this selective system, it is pos- Shielding is of little avail, but the roble to connect in three, six, nine, tary plates of the variable condenser

It must be remembered that the will enable you to tune out your local lead from the grid on the socket to stations and still receive from distant the grid leak and condenser should not be more than one inch in length. The body capacity effect of this lead In connecting the taps, the wire may is the most critical of the set. The be cut and holes punched in the tube, next lead is the one from the plate and the wires drawn through these, to the variometer. This should be

The A battery, AB, should be four make the winding much firmer and dry cells in the case of the UV201A and C301A tubes, and three dry cells for the UV199 and C299 tubes.

> three turns apart, they make a vast has gathered the elect remnant of Isdifference in selective tuning.

In no case can there be more than in connection with this judgment. 15 turns in the antenna circuit. Thus anywhere from three to nine meg- the chance of radiation is almost nil. Again I wish to warn against the use of shellac on the tuning coil TC.

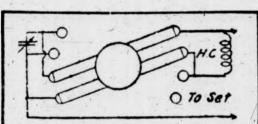
This circuit may be amplified in the better to have a spare grid leak, say same manner as the multi-audi-plex for instance, a three megohm and a circuit. The point gained in this cirnine megohm and snap these in at cuit is selectivity and the practical elimination of reradiation. The cir-The variable condenser, VC, should cuit will be immediately noted for its be .0005 mf., preferably of the 23 plate wonderful quality reproduction.-New

## Series-Parallel Switch-Its Uses in Receiver

The series-parallel switch eliminates the necessity of changing of wires durhandy for a quick change-over from phones. Another use for the series- out of adjustment. parallel switch is found when it is charger and the battery for the set.

the battery is thrown to the charger | the switch arms. circuit and when in the reverse directhrow the condenser across the coil or | mended where space on the panel is at

The honeycomb coil circuit requires the use of such a switch in order to change from medium short waves to



### Diagram Showing How Series-Parallel Switch May Be Employed.

longer waves. The switching arrangement allows the use of a certain coil for a wide wave-length range.

An example of the series-parallel switch in honeycomb coil set is shown as follows: Suppose an L-25 coil was being used in the primary to tune to amateur waves below 200 meters and there was an immediate need to go-upon the higher wave length of the broadcasters to hear some particular pro-

condenser would be in series with the coil, but the change would necessitate the condenser being put across the coll. The condenser in shunt with the coil boosts the wave length up without putting in a new coil.

This is a much easier method than hunting around for another primary con and taking time to plug it into reuit after removing the first coil its primary plug. Not alone may variocoupler primary.

necting it across the primary tap circuit to which it is connected.

switch and the lower end of the coil

The form of switch shown in the accompanying drawing may be purchased In any radio store, as it is of the standing a test of a circuit. It comes in very and type. Be sure to make good connections on the back and keep the one circuit to another of the head switch tight, so that it does not wobble

The contact points may be mounted used in connection with a battery on the panel, as well as the rest of the switch. The switch points should be When the switch is in one position kept clean to insure better contact with

a premium.-Chicago Daily Journal.

## Hints for Constructing

In constructing tuned radio frequency amplifiers: Separate the tuning colls to cut

down the magnetic and capacity coupling between them.

Use loose coupling between the primary and secondary coils of tuned ransformers.

Separate the variable condensers used to tune the various circuits by at least five inches.

Experiment with the coupling between the primary and secondary coils of the radio-frequency transformer to find the separation which gives the loudest signal strength with out making the tube oscillate.

Use lamp cord, twisted, for filament leads, and thereby avoid large closed

Keep all battery leads away from the tuning apparatus, and by doing these things it will be possible to build a radio-frequency amplifier that will not oscillate when both grid and plate circuits are in fesonance.

## Pointers About Makeup of Dry Cell Batteries

A dry cell battery consists of a zinc container filled with chemicals, in the center of which is a brass-capped carbon rod. The zine can is the negative this method be used in a honeycomb pole or electrode and the center carbon coil set, but may be used with any is the positive pole or electrode. The voltage of a dry cell is about 1.5 tolts It is sometimes desirable to sharpen, when it is not in circuit (open circuit the tuning of a single-circuit set. This voltage) and it is lower when it is in if accomplished by taking the series circuit (closed circuit voltage), decondenser out of the circuit and con- | pending on the cell resistance of the

By REV. P. B. FITZWATER, D.D., Dean of the Evening School, Moody Bible Initute of Chicago.)
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## Lesson for January 11

THE JUDGMENT OF THE NATIONS

LESSON TEXT-Matt. 25:31-46. GOLDEN TEXT-"Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto Me."-Matt. 25:40 PRIMARY TOPIC-Kindness Pleases.

JUNIOR TOPIC-Christ's Picture of the Judgment. INTERMEDIATE . AND SENIOR

-Practical Christianity.

The subject selected by the lesson committee is "The Last Judgment," but this is an error. According to legitimate textual and contextual signification it is the judgment of the living nations which still lies in the future (v. 32). The idea of a general judgment which is of such frequent occurrence in religious literature and teaching is a fundamental error. It is not once found in the Bible, neither the idea which it is intended to convey. Doctor Pentecost most truthfully says, "It is a mischievous habit that has led the Christian world to speak of the judgment as being one great event taking place at the end of the world when all human beings, saints and sinners, Jews and Gentiles, the living and the dead, shaft stand up before the great white throne and there be judged. Nothing can be more wide of the Scripture." The Bible speaks of several judgments, different in respect to the subjects to be judged. the place of judgment, the time of judgment and the result of judgment.

I. The Judge (v. 31). It is the Son of God who-came and died to redeem the human race. He is now seen clothed with majesty and power sitting upon His throne acting as Judge. Those who accept Jesus Christ now as their Savior shall not come into judgment (John 5:24).

11. The Time (v. 31).

This judgment will take place when the Lord comes in His glory accompanied with a retinue of glorious Although the switch points are only angels. This will take place after He rael. There will be no resurrection

III. The Place (v., 31). The prophecy of Joel, the third chapter, and Zechariah 14:1-5, show that it is to be in or near Jerusalem. The angel said to Mary, "Thou shalt call His name Jesus. He shall be great and shall be called the Son of the Highest: and the Lord God shall give unto Him the throne of His father David. And he shall reign over the house of Jacob forever; and of His kingdom there shall be no end." (Luke 1:31-33). As David was a literal king and reigned in a literal place, there shall be a literal judge occupying a literal place of judgment.

IV. The People Judged (vv. 32-45). These will be the living nations upon earth after the church has been translated (I Thess. 4:16, 17). These are nations to whom the gospel of the Kingdom shall be preached just prior to the coming of the end. "And this gospel of the Kingdom shall be preached in all the world for a witness unto all nations; and then shall the end come." (Matt. 24:14). This gospel is distinct from the grace of God, The market also affords a series which is now being preached. The tion the battery is connected to the set. parallel switch all mounted so that preachers of this gospel will be the method shown in the accompany- only one hole is necessary in the panel Lews (see Revelation 7 and Romans diagram is used in connection with for the center shaft. Such a switch | 11). These are the brethren of the honeycomb coil circuit. It is used eliminates the necessity of drilling Lord in the flesh who move among in the primary part of the circuit to eight holes in the panel, and is recom- the nations of the world with the startling message of the news of the Lord's approaching kingdom. Some of the nations will gladly receive the message and kindly receive the kingdom messengers, giving them clothing, Tuned R. F. Amplifier food, shelter, etc. Others will persecute them, thrusting them into prison. Here the first will visit the messengers of the King and provide for their wants. At this time the Judge will separate the nations, placing the sheep on the right and the goats on the left hand. The sheep are those who have given proper treatment to Christ's brethren. The goats are those who rejected and mistreated his brethren. If these three classes, the sheep, the goats and the brethren be kept separate, all confusion will be avoided.

V. The Issue of the Judgment (v.

46: Cf. vv. 34-41). 1. The Sheep Entering into the Inheritance of a Prepared Kingdom.

2. The Goats Going into Everlasting-Fire Prepared for the Devil and His Angels (v. 46). This judgment shall determine their destiny.

## Have Not Yet Seen Him

The fact that none saw Christ after His resurrection except those who loved Him is suggestive that His enemies have not yet seen Him and do not know Him.-Echoes.

## With One Hand

God chastens us by many instruments, but with one Hand .- Christian Evangelis\*

## God Knows

Man takes account of our failure. but God of our striving .- Christian

## Today and Tomorrow

The talents, our today, may be demanded by the Owner tomorrow .-Herald and Presbyter.

## Boschee's Syrup

Allays irritation, soothes and heals bront and lung inflammation. The onstant irritation of a cough keeps he delicate mugus membrane of the broat and lungs in a congested conlition, which BOSCHEE'S SYRUP gently and quickly heals. For this eason it has been a favorite housetold remedy for colds, coughs, bronhitis and especially for lung troubles n millions of homes all over the world for the last fifty-eight years, enabling the patient to obtain a good night's rest, free from coughing with easy expectoration in the morning. You can buy BOSCHEE'S SYRUP wherever medicines are sold .- Adv.

## Beating Time

A New York newspaper placed a oud speaker alongside a linotype mahine in its composing room during the world series game. The com-TOPIC-Christ's Picture of Judgment. positor cast the type describing the YOUNG PEOPLE AND ADULT TOPIC plays as they came to him over the radio. In this manner the newspaper beat its contemporaries on the street by several minutes with a complete detailed description of each of the games .- Collier's.

## The Remedy That Has Passed The Test



It has been before the public for more than fifty years-

It is a scientifically compounded prescription It has healed thousands-

It is of special value diseases of catarrhal

Catarrh is inflammation of the mucous membranes. It manifests itself in the nose, the throat, the stomach, the bowels and other parts of the body.

will prove helpful wherever and whenever there is catarrhal inflammation.

Sold Everywhere Tablets or Liquid

## Motor Ships Favored

For the first time in history the tonpage of motor ships being constructed throughout, the world recently exceeded that of steamships.

## "CASCARETS" FOR LIVER AND BOWELS-10c A BOX

Don't Stay Dizzy, Bilious, Headachy, Sick or Constipated.



Feel fine! Let "Cascarets" clean your bowels and stimulate your liver. No griping lions of men. women, and children take this harmless laxa-

tive-cathartic. It doesn't sicken you like pills, oils, calomel and salts. Tastes nice-acts wonderful. Sold at drug stores.

## Golfer's Advantage

The golf liar has one advantage ver the angling Ananias; he doesn't have to show anything to prove it .-Boston Transcript.

## Cuticura Comforts Baby's Skin

When red, rough and itching, by hot baths of Cutleura Soap and touches of Cuticura Ointment. Also make use now and then of that exquisitely scented dusting powder, Cuticura Talcum, one of the indispensable Cuticura Tollet Trio.-Advertisement.

## Wemen Want Smoking Cars

In England an agitation has been started for smoking compartments on trains for the exclusive use of women.

## Winter Desserts. Date Pudding

1/2 tsp. cloves 1/2 tsp. allspice c. butter tsp. nutmer level tsp. Calumet & ib. dates, cut baking powder in pieces

Melt butter and add to the molasses and milk. Sift together flour, baking powder, salt and spices, and add with dates. Steam two and one-half hours. Serve with hard or creamy sauce:

When a fool gets angry he opens his mouth and shuts his eyes.

he a bitter pill at home,

MOTHER:- Fletcher's Castoria is a pleasant, harmless Substitute for Castor Oil, Paregoric. Tecthing Drops and Soothing Syrups, especially prepared for Infants in arms and Children all ages.

hildren Cry for

To avoid imitations, always look for the signature of Chart Hetchers

Proven directions on each package. Physicians everywhere recommend it.

## Inscriptions on Rocks Thought to Be Chinese

Weird rock writings in caves ten miles northeast of Virginia City, Nev., are to be studied with a view to deter-Indians, as heretofore supposed, or of mining whether they are the work of ancient Chinese, says the New York

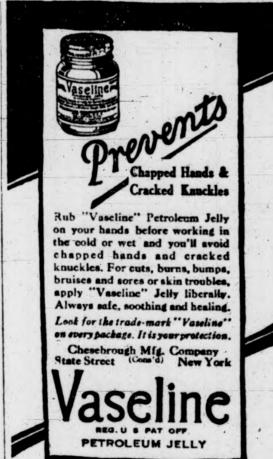
Gee Ding. Chinese student at the University of Nevada, made a visit to the caves recently and expressed belief the writings are Chinese and deplet a story of ancient Buddhist priests, an attempt to circumnavigate the globe and of the landing on this continent.

It is legend in China, according to Gee Ding, that thousands of years back, five ships under command of Buddhist priests, set sail and never returned. Gee Ding believes it may be possible the writings were made by these people.

## So It Seemed

The Bess-And what have you been doing all this time, Miss Montgomery? New Typist-Typing the letter you dictated, sir.

something."-Judge.



Nature's Great Law Everything bears within itself an Really! I hought you might have impulse to strive after a higher debeen working it up in embroidery or gree of divinity, and that is the great law of progress throughout all nature.



SAY "BAYER ASPIRIN" and INSIST!

Unless you see the "Bayer Cross" on tablets you are not getting the genuine Bayer Aspirin proved safe by millions and prescribed by physicians 24 years for



Colds Pain

Neuralgia Lumbago Toothache

Headache

Neuritis Rheumatism

Accept only "Bayer" package which contains proven directions. Handy "Bayer" boxes of 12 tablets-Also bottles of 24 and 100-Druggists.

# You Can Quickly Limber Up Sore, Stiff, Swollen Joints

live druggist has it. but that doesn't stop it from taking flamed and the agony intense. the kinks, lameness or torture out of

your troubled joints. Joint-Ease is the name, so-called be and helpful results in congestion, sore cause it is compounded solely for the throat, chest colds, lumbago and neupurpose of relieving all joint ailments. ralgia much quicker than almost any

Just rub it on the tormented, lame remedy you can buy. joints and in just a few seconds it will penetrate through skin and flesh for joint afflictions that it is mostly right down to the tendons and liga- dispensed and its helpfulness will asments of the joints-right where the tonish you after all ordinary liniments trouble starts-then blessed comfort and other treatments have failed. The sweet confection abroad may comes quickly.

It absorbs instantly and is so clean gets in joint agony gets out-quick.

It's here, right in town and every and stainless that you can rub it on often and get thereby, results much It's a low price remedy, to be sure, more quickly, when the joint is in-

> Being such a powerful counter irritant, it cannot help bringing speedy

But you must remember that it is

Always remember, when Joint-Ease

8-3-5 FOR TOBACCO Sand Drown has ruined many tobacco crops. It has turned high hopes into despondency. This OPEN-FORMULA formula has sufficient **FERTILIZERS** mognesium to assure you against sand drown BUARANTESE ANALYSIS B-3-5 FOR TOBALCO trouble. Ask your County GUARANTEED ANALYSIS 8-3-5 FOR TOBACCO Also mode in 8-3-3 or 715H .... 75 % 3 00% 3 00% 3 00% AMMONIAT - 75% | 3.00% | SLOON - 1.00% | 3.00% | 3.00% | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% 3-4. There is a Salesman in every bog of Josey's Fertilizers. On sale by the leading merchants almost every-MA NUFACTURED BY MANUFACTURED BY where. If there is no N.B. JOSEY GUAND @ deoler near you write N.B. JOSEY GUANO @ WILMING TON, N. C WILMINGTON N.C. 2-2 /