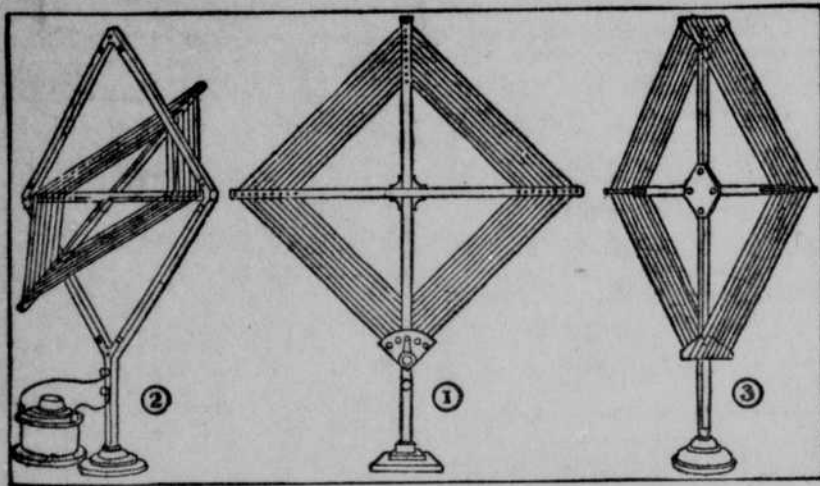


RADIO

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



Types of Loops Which Can Be Constructed at Small Cost.

By HARRY GEORGE
Admitting that static is a bugar to radio, it knows no favorite type of set; it affects all, but engineers have designed circuits and methods of reception which at the present stage of development can be termed as highly satisfactory means.

One of the greatest steps along these lines is the development of the loop aerial. It is a well known fact that good summer reception can be obtained with the aid of a loop aerial and one or more stages of radio frequency. Even distant signals have been copied in the hottest summer months on certain semi-favorable nights.

But to get down to the point of our talk. It has been said that a loop will pick up but 1-10 the signal voltage that could be obtained with the use of an outdoor aerial. If this is so it is easily seen that we must increase or amplify this signal to such a value that it will operate a detector; the method of wiring up and operating a radio frequency amplifier has been published in detail many times, therefore it will not be given now. Our thought is the construction of the loop itself. In laboratories and work accomplished by the vast number of radio experimenters different types and sizes of loops have been used, ranging in size from small coils one inch in diameter, honey-comb coils and receiving coils of various tuners up to massive single-turn loops measuring 10 feet on a side.

Best Type of Loop.
Experiments proved that the best type of loop for use on the broadcast band lengths measured about 8 1/2 feet on a side and consisted of but a single turn of No. 15 green and yellow single conductor lamp cord. This loop was tuned by means of a 0.006 variable low loss condenser and the results accomplished by it fully equaled those obtained with an outdoor aerial measuring 75 feet long.

Owing to its awkward dimensions it was impractical for home use. There are, however, smaller and more convenient sizes to handle which will give very good results.

The illustrations will give the experimenter an idea of types of loops which can be constructed at a very small cost. Figure 1 shows the loop used in the Sleeper Monolot receiver. The crosspieces measure 27 inches, or 13 1/2 inches on a side. It is wound with 10 turns of standard flexible loop wire spaced one-half inch apart, the outside turn measuring 18 inches. It is provided with a set of taps, which are connected to the 2d, 4th, 6th, 8th and 9th

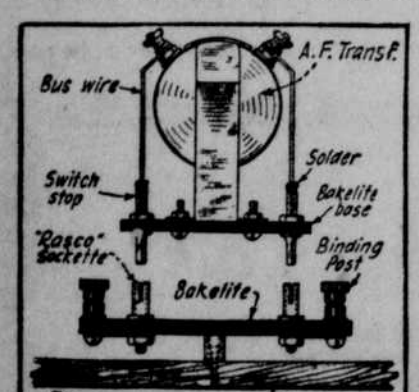
turns. This arrangement, which is found in no other loop, performs the unique duty of controlling the potential on the grid of the first tube, thereby eliminating the usual potentiometer. The switch does not vary the inductance of the loop. The frequency is only varied by the condenser, which is shunted across its terminals, the lower one of which is connected to the filament and the upper one to the grid of the first tube.

Other Kinds of Loops.
Another type of loop, of the pancake type, which will afford interesting food for thought is shown in Figure 3. This loop was experimented with by H. G. Silbersdorf of Jersey City, N. J., and has the added feature of being able to not only rotate on its axis but can be tipped to any desired angle as well. Experiments with the use of a resonance wave coil led up to the loop in its present form, and it was found to have certain defined advantages over the average loop. It seems to at least partly solve the great summer question of signal to static ratio. When tipped at certain angles the static is weaker and the signal stronger. The theory is as follows: If radio waves travel parallel to the surface of the earth and static disturbances travel in a more or less perpendicular path to it the adjustment of the pick-up coil can be so arranged to pick up most radio waves, which is at such an angle that it will pick up a minimum of static waves.

The crossarms of the loop measure 18 inches each and the outer framework pieces measure 13 1/2 inches each. Thirteen turns are made, which are spaced three-eighths of an inch apart. C-shaped brass angle pieces are fastened into the corners of the outer frame, which serve to support the inner crossarms. The entire loop is tuned by means of a .001 variable condenser. Still another form of loop is shown in Figure 3. This is known as the box type and, while it requires more room to set up, is claimed by many engineers to be more efficient than the ordinary spiral or flat pancake loop. A good size to use for the broadcast waves measures four feet on the arms, the ends of which are provided with bakelite or other insulating material in the slots in which are wound 10 turns of loop wire, five on either side of the lower upright support. Like the other types, it is tuned with a variable condenser and is recommended highly for use with super-sensitive receiving instruments, owing to its large dimensions.—New York Evening World.

Removing Transformers From One Set to Another

This article is a description of a method whereby the formerly immovable A. F. transformers in a receiving set can be moved from one set to another as quickly as a vacuum tube and without disturbing any wiring or loosening and tightening any nuts or binding posts. This arrangement makes the purchase of more than two or three transformers unnecessary, no



Arrangement for Quick Transfer of A. F. Transformers for Test.

matter how many different receiving sets the experimenter may use. The scheme, as can be seen from the drawing, consists of mounting the transformers upon separate, identical bases of bakelite or formica on which screw contacts made from switch stop gear are fastened. The contacts are wired to the terminals of the transformers. If different makes of transformers are used, be sure the G.P.B. and F terminals are wired to corresponding contacts on the bases to prevent reversed connections as the transformers are moved from socket to socket.

The sockets consist of pieces of formica or bakelite cut slightly larger than the transformer bases. On each of these are fastened four binding posts and four "Rasco Sockets" (small size). If the "Sockets" cannot be obtained, cord tip jacks which will accommodate stop pins or the arrangement shown in Fig. 2 may be used.

To avoid placing the transformers in the sockets incorrectly, do not arrange the contacts in a square or rectangular formation, but place the primary contacts closer together than the secondary contacts.

This idea is also useful in making comparative tests between different transformers, and also the best position in the circuit for different radio transformers.

Do Not Shield Panel
In connecting up a receiver, whether it be a single-tube "blooper" or a six-tube super, always keep the high potential wires away from the panel. If a set is correctly wired in this respect it is not necessary to shield the panel. It is not good practice to shield a panel when not necessary, as the shield forms one plate of a condenser, with the wires that are not at ground potential as the other, and will result in broader tuning.

Buy Good Phones
The phones are one of the necessities of the radio set. If the phones are poor it will not be possible to receive long distance stations, because the weak current that flows through the telephone windings will not be strong enough to actuate a movement of the diaphragm. Be sure that the phones are of good make and avoid disappointment.

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your wife, as plaintiff, filed her petition in the District Court of Douglas County, Nebraska, the object and prayer of which petition is to obtain a divorce from you on the grounds of wilful desertion and non-support, and for equitable relief. You are required to answer said petition on or before the 25th day of October, 1924, or said petition against you will be taken as true.

To James Price, non-resident defendant:
You are hereby notified that on the 17th day of June, 1924, Winona Price, your wife, as plaintiff, filed her petition in the District Court of Douglas County, Nebraska, the object and prayer of which petition is to obtain a divorce from you on the grounds of wilful desertion and non-support, and for equitable relief. You are required to answer said petition on or before the 25th day of October, 1924, or said petition against you will be taken as true.

4-9-24-24
WINONA PRICE.

MACEDONIA IS FOR REPUBLIC

Story of Conditions There Told by Emissary From the People.

New York.—A story of conditions in Macedonia, which he ascribes to Serb and Greek domination, has been brought to this country by J. Chkatroff, representative of the Union of the Macedonian Organizations of Bulgaria for the United States and Canada, who arrived here from Sofia recently. The Macedonians, he said, want complete independence and hope that ultimately there will be a Balkan republic, with all Balkan countries federated states. Mr. Chkatroff said he represented approximately 450,000 Macedonians in Bulgaria, who are members of 94 fraternal organizations, 34 societies of youths, a score of benevolent associations and others. He expects to bring his message of Macedonian hopes to the 60,000 natives of that country in the United States.

"In order to understand the causes of the unruly situation in the Balkans and especially in Macedonia, the country which has always been the apple of discord among the Balkan neighbors, one must not forget her struggle for liberty and political independence during the period of the Turkish domination, and the present-day policy of her new conquerors, Serbs and Greeks," he said.

"Many years ago the Macedonian people began a bloody revolutionary war, which has lasted already more than a quarter of a century, and this caused on several occasions the European chancelleries to move, and finally in 1912 the Balkan alliance was formed against the Turkish empire. Unfortunately, the first Balkan war, and the following fratricide among the Balkan allies culminating in the Treaty of Bucharest of 1913, instead of creating an independent Macedonia in accordance with the wishes of her people, and thus to establish a permanent peace in the Balkans, divided the country between the three belligerents, Serbia, Greece and Bulgaria. This actually made the Macedonian crisis worse.

Errors Are Kept Up.
"The last European war which radically changed the map of Europe and which gave us the great principles of self-determination of Woodrow Wilson, did not bring to the Macedonian question its deserved political solution. Macedonia, at that time, was waiting day and night to see those principles applied to her people, so that the latter may be able to freely determine their wishes as to the future of their country. But the Treaty of Peace of Neuilly (1919) seconded the grave errors committed by the Treaty of Bucharest.

"It is true that the great victorious powers imposed upon the governments of Serbia and Greece a treaty for the protection of minorities, which was supposed to guarantee the minimum of political, civil and national rights of the Macedonians. This treaty has now become as valueless as a scrap of paper. The Serbian and Greek governments instead of creating a normal regime in Macedonia as soon as they occupied the country after the great war closed by force more than 1,400 Bulgarian-Macedonian schools with 80,000 pupils and more than 4,000 teachers, which were devotedly supported and financed by the local population; seized the Macedonian churches, libraries and cultural institutions; burned all Bulgarian books and killed or banished from the country all of the Macedonian intelligentsia. Nor was the fate of our other compatriots, Turks and Rumanians, in Macedonia a better one. The heavy fetters of the Serbian and Greek tyranny are to be found today on the doors of the closed Rumanian and Turkish schools and public libraries in Macedonia.

In addition to this policy of the Serbian and Greek governments, which is directed against the moral and intellectual institutions of the Macedonian people, following the practice of former Turkish governments, they began to use new means and methods in order to artificially change the ethnographic character of the country; they resorted to a policy of colonization. Today Serbian and Greek authorities deport the native Macedonian population, plunder their property and distribute same among colonists brought from Banat and Asia Minor. To have an idea of the terrible picture one must visit the thousands of recently arrived refugees, flying from Macedonia into Bulgaria, a country economically poor, and see their tormented bodies burned with hot irons or boiling oil.

"There are two further reasons which aggravate the situation in Macedonia. First, there is a Serbian and Greek administration, whose officers are alien to the people; notorious corruption and sheer force are the only rules in the country, and it seems that the whip is their constitution. One could find out proofs of this by reading Serbian and Greek newspapers. Secondly, the newly created political frontiers tore away the economic bonds between Macedonian cities and districts. Serbian Macedonia has no sea outlet and is gradually dying. Greek Macedonia has no "hinterland," while the remaining part of Macedonia—under Bulgarian authority—has neither sea nor any convenient land communications with the interior of that country, and for this reason, is in a worse condition. The principal economical and political center in Macedonia is Saloniki, which has all the advantages of prosperity, yet at present the city gradually, but certainly, is dying. Her people do not see any more the steaming boats, the commerce is dead and the merchants are leaving the town. Pathras and Peres are rising on her ruins. Bitolla, Prilep, Ochrid and many other towns are sharing the same fate.

"Under such heavy conditions could the Macedonian people remain quiet? With their country torn into pieces could they forget the thousands of

lives sacrificed for the liberty and independence of Macedonia, ever since the days of the Turkish regime? Who could deny the right of the Macedonian to struggle for existence? Who could forbid the Macedonians the fruit of their labors so that the latter may not be plundered by Serbian and Greek authorities and the Macedonian girls and brides may not be insulted by the same?

"And the Macedonian did exactly as an American, Frenchman or an Englishman would have done. The whole people were frightened by the terror of the new tyranny and rose up to protest.

"Banished from their own country, the Macedonians found refuge in Bulgaria, America, Turkey and Rumania, where they formed strong organizations whose aim is by legal means to obtain liberty for their country. The Macedonian emigrants in all lands, who number more than half a million souls, proclaimed their faith in the traditions of past generations and now appeal continuously to the human conscience of the civilized people in the world for the creation of Macedonia into a free country.

Old Revolutionary System.
"Meanwhile in Macedonia proper, after denying the people all rights of carrying a legal political struggle or forming a national political group in the parliament of Belgrade and Athens, they resorted to the only possible action by creating anew the old secret revolutionary organization with its own postal service, courts, militia and efficiently armed military forces, with its own educational and economic policy—in other words, representing a true state organization, mysterious, yet powerful and democratic in spirit, whose ideals are the creation of an independent Macedonia with equal rights for all of her different nationalities, with Saloniki as her capital.

"The Macedonians are neither brigands nor breakers of the laws governing public order and safety, when they are ready to sacrifice their lives for the triumph of their ideals, when they gladly go to die in order to defend their wives and children, when they calmly meet death in order to save Macedonia. And in their struggle for right and freedom the Macedonians hope that they may receive the support of all civilized nations and all liberty-loving people."

HAS NEW DEVICE TO RECORD QUAKES

Greater Accuracy Is Also Promised by Savant.

Washington.—The Georgetown university seismological observatory, which in the last 13 years has given to the world first news of many earthquakes, now assures the public that its reports in the future will be even more dependable.

The university today has among its instruments a new seismograph, known as the Galtzin vertical seismograph, the only one of its kind on this side of the Atlantic.

The special features of this delicate piece of apparatus are magnetic registration and photographic recording, whereby the element of friction in the other types of machines is entirely eliminated. Accordingly, the machine will permit of the recording of many more of the world's quakes and permit of the writings of a shaking earth.

Doctor Sieberg of the Jena seismological station places the number of quakes felt sensibly or instrumentally the world over from 6,000 to 10,000 yearly. Of these in the past only from 90 to 110 have been annually recorded of Georgetown. Father Francis A. Tondorf, director of the observatory, hopes that this number may now reach from 300 to 400.

When it first was founded in 1911 the Georgetown observatory had only one seismograph—the of the Welch type. It carried a stationary mass of 80 kilos. The rocking during windstorms of the south tower of the Healy building, in whose base the instruments were at first placed, necessitated their removal to a cave beneath the quadrangle.

Father Tondorf inaugurated the work at Georgetown when, in 1910, the International Seismological society requested the Jesuit order, with many colleges in the United States, to establish a chain of stations in this country.



Lucien San Souci, reporter for a newspaper of Providence, R. I., says he was kidnaped and branded on the arm by members of the Ku Klux Klan during a Klan meeting near Woonsocket, R. I. San Souci said he overheard a conversation regarding the meeting, and, anxious to get a story for his paper, hurried to the scene. He says he was seized by about twenty men of the hooded tribe, beaten and then branded.

For Rent

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FOR RENT—Neatly furnished rooms, 2536 Patrick avenue. Two blocks from car line.

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Help Wanted

WANTED—Colored men to qualify for sleeping car and train porters. Experience unnecessary, transportation furnished. Write T. McCaffrey, Supt., St. Louis, Mo.

Miscellaneous

Use DENTLO for the teeth. Large tube 26c.—Adv.

ED. F. MOREARTY
Attorney at Law
700 Peters Trust Building

NOTICE OF SERVICE BY PUBLICATION

To James Mayo Non-Resident Defendant:

You are hereby notified that Theodocia L. Mayo, your wife and the plaintiff herein, filed her petition in the District Court of Douglas County, Nebraska, on the 26th day of May, 1924, to obtain an absolute decree of divorce from you on the grounds of wilful desertion for more than two years last past, and for non-support.

You are required to answer said petition on or before the 27th day of September, 1924.

THEODOCIA L. MAYO.

4t-8-29-24

W. B. BRYANT, Atty.
PROBATE NOTICE

In the Matter of the Estate of Bertha Dixon, Deceased.

Notice is Hereby Given: That the creditors of said deceased will meet the administratrix of said estate, before me, County Judge of Douglas County, Nebraska, at the County Court Room, in said County, on the 21st day of November, 1924, and on the 21st day of January, 1925, at 9 o'clock A. M., each day, for the purpose of presenting their claims for examination, adjustment and allowance. Three months are allowed for the creditors to present their claims, from the 18th day of October, 1924.

BRYCE CRAWFORD,

4t-9-19 County Judge.

LEGAL NOTICE

To CLEVE WARDEN, NON-RESIDENT DEFENDANT:

You are hereby notified that on the 27th day of May, 1924, Dora Warden filed a petition in the District Court of Douglas county, Nebraska, against you, the object and prayer of which are to obtain a divorce from you on the ground of desertion.

You are required to answer said petition on or before the 20th day of October, 1924.

DORA WARDEN, Plaintiff.
Per W. B. BRYANT,

Attorney for Plaintiff.

4t-9-12-24

ED. F. MOREARTY
Attorney-at-Law
700 Peters Trust Building

NOTICE OF SERVICE BY PUBLICATION

To HARRY KING, NON-RESIDENT DEFENDANT:

You are hereby notified that Winona King, your wife and the plaintiff herein, filed her petition in the District Court of Douglas County, Nebraska, June 9th, 1924, to obtain a divorce from you on the grounds of non-support. You are required to answer said petition on or before October 10th, 1924.

WINONA KING.

4t-9-12-24.

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