CARDBOARD MAY **BE USED TO BUILD AIR WAVE TUNER**

Principal of Radio Communication With Hints to Beginners, Told By An Expert.

JOHN GILMORE O'ROURKE.

Having obtained a fundamental knowledge of the principles of tuning and realizing the necessity of this process as used in the radio science, we are now ready to begin the construction of a receiving tuner.

The first question that arises is: what wave lengths do you wish your receiver to respond to?

Space will not permit lengthy discussions on the various types of tuning apparata, so I have decided to describe in detail a receiving tuner for amateur use. This tuner will also receive all commercial stations operating on a wave length of 600 meters. When two variable condensers, having a maximum capacity of .001 microfarad, are used in conjunction with this tuner, stations operating between the wave-lengths of 150 and 750 meters can be received. One condenser should shunted around the primary coil of the tuner and one should be shunted around the secondary. May Use Cardboard.

The tubes upon which the primary and secondary windings are wound should be made of very stiff card-board. White enamel cardboard makes fine tubes. The walls of both tubes should be at least one-eighth of an inch thick. The primary tube should be made four and three-quarters of an inch, outside dimaeter. It is also two inches in length. The secondary tube is two and one-half

process of winding. The best wire for turing apparatus is a product developed during the war. It is called litzendraht, c om mon 1 y termed litz. It is composed of a number of fine wires twisted into the form of a cable. If you intend in this article, I would advise the inthis article, I would advise the use of size 20-38. The primary consists of 66 turns tapped every 11 turns. The secondary consists of 60 turns tapped every 11 turns. The secondary consists of 60 turns tapped every 11 turns. The secondary consists of 60 turns tapped every 11 turns. The secondary consists of 60 turns tapped every 11 turns. The secondary consists of 60 turns tapped every 11 turns. The secondary consists of 60 turns tapped every 11 turns. The secondary consists of 60 turns tapped every 11 turns. The secondary consists of the continuity of interest, but now they sults and avoid the necessity of waiting for street cars. By skating the to their tapped at us.

There is nohting more invigorating the use.

"There is nohting more invigorating the use.

There is nohting more invigorating than an outing on roller skates in the morning," Miss Mason asserted. "It gives us zest for the cobwebs. We know it has intended and the morning," Miss Mason asserted. "It gives us zest for the cobwebs. We know it has intended and the morning of the cobwebs. We know it has intended and the morning of the cobwebs. We know it has intended and the morning of the cobwebs. We know it has intended and the cobwebs. The profess is not against the decent landlords, as Mayor Gillen turns. The secondary consists of 60 turns tapped every 15 turns. If you are unable to procure litz use use size 22 DSC magnet wire.

Sists of 60 turns tapped every 15 turns. If waiting for street cars. By skating is rough."

The Misses Mason and Wilburn are clever swimmers and enjoy all forms of outdoor sports. But they

be required to control the primary and secondary inductance. The taps taken on the primary and secondary and secondary and secondary coils should be run to two separate accomplished.

We sought the active accomplished ment as a source of information tegrating radio communication.

Questions must bear interest to accomplished. of switch points. A flexible lead should be run from the primary switch knob to a binding post on the front of the panel you are going to mount your tuner behind.

The secondary switch knob should the extreme ends of the coils.

secondary coils is a very important tion of the secondary within the entirely on the efficiency of your primary a simple matter. Maximum apparatus. coupling is obtained when the secondary coil is at right angles with use a bakelite panel. Adopt one the primary.
With the above-mentioned tuner

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Teachers Prefer Roller Skates to Street Cars "TENT CITY" FOR



inches in diameter and two inches in length.

After the tubes have been constructed and shellaced to make them as rigid as possible, we begin the more structed and shellaced to make them as rigid as possible, we begin the more structed and shellaced to make them as rigid as possible, we begin the more structed and some of the children laughed at us."

There is nohting more invigorational duties.

we," is the refrain sung by Claire judgment we had confidence. He ad-

Use Flexible Lead.

Two switch levers and knobs will burn. "We sought the advice of a the leastest money."

The aerial is of course connected to one primary terminal of the tuner, while the ground lead is connected to the other.

Don't Use Shellac.

be dealt with in the same manner.

The other secondary and primary tuning appliance, as it lowers the terminals should be connected to efficiency of the instrument con-Never shellac the windings of any siderably on account of the capacity The mounting of the primary and effects resulting from the shellacing. Solder all connections. Make the factor. They should be mounted in whole tuning system as low resistinductive relation to each other, and ant as possible. For, remember, the in such a way as to make the rota- results you are expecting depend

> In designing your receiving set type of know and stick to it. We all want our outfits to look nice. Therefore use nickel-plated switch points and binding posts. Bakelite not only is neat appearing, but is the best known insulator.

Next week: The Crystal Detector or Rectifier and Its Action.

Queries Department.

Any person may use this depart-

Every Boy has his own horse at this Ranch Camp in

New Mexico-Near Santa Fe, 7,500 feet elevation. Camping trips in the national forests. Only 18 boys can join and they are under supervision of competent men of sterling character. Boys learn much of nature, handling horses, etc. I know of camps far and near for boys, girls and adults and of trips through the National Parks, the Great Lakes-everywhere.

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Ask Mr. Foster Burgess-Nash Co. On Balcony .



CIAL PRINTERS - LITHOGRAPHERS - STEEL BIE EMPOSSER?

amateur body as a whole. Address all questions - Editor, Radio Dept., Omaha Daily Bee. M. S. Omaha, Neb.

1. I use a flat top aerial 75 feet long and 48 feet high. Will you kindly tell me the wave length of A. Approximately 170 meters.

2. Can I use city current through a small step down transformer to run my spark coil transmitter? A. Yes.

3. Will it function as efficiently

as an electrolytic interrupter? A. No.

Band Concerts at Fort Crook Tuesday, Friday

The programs for the Tuesday and Friday night concerts to be given by the Twentieth infantry band at Fort Crook, are as follows: Tuesday Night,

March The Guiding Star
Overture Nubucudonosos
One Step Oh! How Sie Can Sing
Waltz. Merry Widow
Characteristic. The Crocodile
Selection The Sultan of Zulu Friday Night.

Colonel Buck, commanding the regiment, extends a general invitation to Omaha residents. The con-certs begin at 6:30 and end at 7:30.

Stores to Close Early and Factories to Shut Down

The Memorial day holiday will be observed in Omaha, Monday by the closing of business houses the entire day, or during the afternoon, it was announced yesterday at the Cham-

ber of Commerce.

Jobbing establishments and factories, for the most part, will not open during the day. A few whole-sale houses intend to operate until noon. Retail stores will remain open until noon. All banks and virtually all business offices in the city will be closed all day.

and shops will be closed all day. The Chamber of Commerce will not open during the day.

Pageant of Nations Will Feature Jewish Program

A pageant of nations given by men and women in national costumes will be a feature of the program at the Jewish celebration of the restoration of Palestine at the Municipal auditorium today at 8

Harry A. Wolf will give an illustrated lecture on Palestine. Rabbi M. Taxon will make an address "The Attainment of an Ideal." Governor McKelvie will make the address of welcon

Dancing will follow the program. The committee in charge of ar-rangements for the all-day celebration asks all Jewes of Omaha to decorate their homes Sunday with he American and the Zionist flag.

In and about the city of Augsburg, which is the center of the cetton spinning and weaving industries of Southern Bavaria, under normal conditions there are in operation 500,000 spindles and 21,000 looms, which give employment to about 15,000 men and women.

NEWARK RENTERS

Quarters Arranged on Public Playground for Scores of Families Evicted by Landlords.

By MARGERY REX.

Playground" for their battle hymn-those of the dispossed tenants who have taken advantage of the new Tent City" erected on the public playground on Boylan street by that aggressive young mayor, Charles P.

"We had to do something about this rent profiteering situation," said Mayor Gillen. "We decided that the city's playgrounds afforded ideal situations for tent homes. Many of the Newark landlords didn't want children in their houses. They kept raising rents, and when the increases were met without complaint they de-vised other means to dispossess their "Warm weather will make the out-

door living agreeable enough. You see each tent, 16x16 feet, has a plank floor built several inches from the ground to insure protection against dampness. The state of New lersey gave us the tents, and we are having electricity installed in each

Convenient Shower Baths. "There will be shower baths built under the old base ball grand stand, and a cooking area will be set aside up at the northwest corner of the

grounds.

"These people may stay here as long as they wish and take their time about securing homes elsewhere."

Everybody looks happy in the new tanvas town, even Mrs. Margaret Stanton, who, through the demands of her landlord, lost her means of livelihood, which was derived by keeping a rooming and boarding

DEFINITE PLANS BEING MADE FOR **OMAHA MUSEUM**

Mrs. Ward Burgess Offers to Pay Salary for Director-Public Library to Pro-vide Space.

Mrs. Ward Burgess, president the Omaha Society of Fine Arts, has offered to give any amount of money necessary to pay the salary of a mu-seum director, if the society will provide an equal amount for his activities, the offer to cover a period of

meeting of the society yesterday aft-ernoon in Hotel Fontenelle. Announcement was made that a director may be obtained at \$2,500 a year.

Offer Space For Museum. The public library board has ofmanent public museum in Omaha.

In the proposed museum rooms the way to win the war, will be held classes in drawing and After which subtle painting for children. Other fea-tures will be arranged insofar as the "But their little brandishings are tures will be arranged insofar as the space will permit. anununshrdleey.tnsshrdlu annn u nu

Plans To Raise Money. Mrs. C. M. Wilhelm, chairman of

the exhibition committee of the Society of Fine Arts, as soon as she don't believe we shall ever go dry. returns from the east, will name a. raising the necessary amount of The society contemplates the new director will have been selected be-

The museum rooms will also body in the past. serve for meetings of the art societies and for lectures. A vote of thanks was extended to Railroad offices will also be closed. the public library board for the of-Both the Union Pacific headquarters fer to furnish the space for museum the public library board for the ofpurposes.

Indian Reserves Are to Be Opened in Canada

Ottawa, Ont., May 29 .- Three Indian reserves in Saskatchewan will can woman, that saloon-smashing be thrown open before June 1 for warhorse, the late Carrie Nation; soldier settlement, according to Chairman Black, of the Soldier Settlement board. The lands aggregate 43,239 acres as follows: Ochopawace, ten miles northeast of

Girl Is Mistaken for

ing.

She was shot by James Treasure, a railroad conductor, who mistook her for a rohber as she was entering should outgrow the lightweight the Treasure home, where she lived.

MAYOR PROVIDES Runaway Peevish Over Treatment in New York

By MARGERY REX. (Written for International News

Service.) New York, May 00 .- "Next time visit New York I'm goin' to bring along a gov'ment forty-four with a lot of bullets in it to protect m'self." A conservative enough statement, considering that the speaker, with the best intentions in the world, so

he says, came here merely to call on friends and get some of the hun-New York, May 30.—It's "war on landlords" over Newark way, and they're singing "Tenting on the Old soldier of fortune and dares anyone to find out more about him than he cares to tell.

The children's society calls him "incorrigible," and, in all fairness, appears to be quite right.

John is being held by the society at the request of the Norfolk (Va.) police, since the youthful voyager call that Virginia city his home. It seems as if a normal boy would think of something other than revenge five days after being brought to time by a hotel employe wise enough to know that a small boy is a precious thing and needs protection. John is polite to the women who are looking after him, but never fails to express his hate and resentment toward those who are responsi ble for his present situation.

What can be done with such a boy? Bright, judging from his manner of speech and general knowledge. a lad who has associated with intelli gent people, interesting in appearance, his intense hate for authority and his reckless talk of guns and revenge are not childish whims to be passed over lightly. It is a matter for study. He is pitifully precocious. John Brandt is a bright-looking boy, with well-shaped head and studious expression. But his small

oddy quivers like that of a fox terrier, and his brown eyes flash in a startling way when an attempt is made to find out just who he is. Reaching New York he marched stubborn runaway. into a hotel and demanded a room "Find out if you

Now John admits his great life work will be to wait patiently till he is twenty-one and "get" the hotel and the clerk.

"You just the hotel wait till I'm 21 to get even with that hotel 'n everyone else.

"They say," he said turning to me, "that I took stolen money. That's not true. I didn't know it was stolen to true. I didn't know it was stolen to true.

"You just wait and watch my speed," he said, biting each word.
"My brother is a great United States spy, and he-gee-suppose he found out I was here—guess what he'd do to see people who owe me money. One man owes me \$500. I really need \$1,000 to do that right and get

go back to Coblenz in Germany, where he says he spent some time after the signing of the armistice.

"I was in the Fourth infantry, third division, Company A," he said defiantly. "Think you know anyone in that outfit who can tell you who in that outfit who can tell you who are true, or whether he believes them true because he has repeated am? Guess not!"

ousiness and I like eats. "Gee, wouldn't it make you mad if tives.

AMERICAN 'WHITE

The offer was made at a special Dubs Temperance Women Propagardists From U. S.— "Transatlantic Buttinskys."

fered to allow the society the use London, May 30.—Take it from or rooms on the top floor of the li-London, May 30.-Take it from brary, for museum purposes. The Daily Sketch, Americans are all right Society of Fine Arts and the Friends and English women like them. But of Art already have a collection of like "Cousin Egbert," of Redgap, old fine pictures on the walls of these England "can only be pushed just so

rooms and the present plan is to establish a museum which shall be open to the public and which the members believe and hope will be naively, whether they are arranging the start of a commodious and per- our law and order for us or informing the world how they showed us

After which subtle introduction getting nearer and nearer the British

knuckle," she says. "America has gone dry and handful of women came to England to arrange a thin time for us as And even that's amusing.

"The point that fails to amuse me committee which will assist her in in regard to the action of these American women teetotallers is the money to meet Mrs. Burgess' offer. effect their dribbling in our politics and social questions is likely to have fore the fall season and that the we English women have broken museum will be opened during down so slowly and imperfectly, and with much suffering of mind and

> "Irresponsible strangers in our midst, if these white badge women one or two matters.

"First, that the problem was driven home from every street corner during the suffrage agitation; second, that the temperance movement as a whole was narrowly brought into ridicule by an Ameri-

pawace, ten miles northeast of Broadview, 18,846 acres; Touchwood, 100 miles southwest of Saskatoon, in the Touchwood Hills district, 8,075 acres; Piapot, 15 miles northeast of Regina, 16,318 acres. Indian lands will be held for soldier settlement only.

"I would ask them to reflect that we English women, having the vote and the right to a seat in Parliament if can win it, are for the present in a position requiring for us judgment, tact and tolerance, and that being on probation as law-makers in the eyes of the world, we must step yet delicately indeed. must step very delicately indeed, "W simply conot stand trans-atlantic buttings-in.
"You Americans have done your

Burglar, Shot to Death durndest by us-and I still like you. Nevada, Mo., May 29 .- Being mis- But it was quite unnecessary to send taken for a burglar brought a revolver bullet, which resulted in the death of Miss Sabra Douglass, 20, here early the other Sunday morn-



and then got put here-locked up in

Miss Crane of the Children's so ciety tried to explain to John that it was not jail, but that it meant kind care till something could be found out about him. But nothing could make an impression upon the

"Find out if you can," with almost a sneer on his boyish face, "I can and bath. A clerk called a police-man who took John to the children's wait till I'm 21 to get even with that

\$10,000, bought a yach and are sailing for the Philippines. They'l' never get caught.
"I came to New York on business

The young runaway is possessed across to Germany again to start of a strange ambition. He wants to in business. John ran this fingers through his mop of light hair and sighed. He said delay irritated him greatly. Someone said John might have

them true because he has repeated "I liked a shopkeeper in Coblenz them so often is not clear. Unand I took his name, Brandt. You can't find out who I am from him, either. I want to go back there and join him in business. It's a food money, powerful friends and rela-

Nebraska Class of 1909 To Banquet at Lincoln

Omaha members of the University of Nebraska class of 1909 are informed through Petrus Peterson, resident, that their alumni dinner will be held at 6:30 Friday evening, June 4, at the Grand hotel in Lincoln. Reservations may be made through Mr. Peterson at the Bankers Life Bldg., Lincoln.

Ain't ball playing a tough life? They have to work on Sunday and never get a summer vacation and have to spend the winter in Cuba.

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On the reverse side appear the following tables and charts:

Table showing increase in crude oil and gasoline consumed and number of automobiles in use from 1910 to 1918, inclusive.

Chart showing increase in production of crude oil from 1910 to 1917, inclusive, comparing production of United States, Texas and the world.

Table showing number of wells drilled and number producing for each field, from 1912 to July 1, 1919.

Table showing approximate production for each of the principal Texas fields in 1918 and first five months of 1919.

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