

FIFTEEN MINUTES OF RADIO EACH DAY

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Lesson No. 164.

POINTS TO REMEMBER.

REMEMBER THAT:

Armstrong advises that amateurs become not over enthusiastic over his new super-regenerative circuit and accept their old equipment in order to install the new system. It is very critical in adjustment and good results are usually obtained only by persistent and patient experimentation in connection with an understanding of the fundamental idea involved.

Radiotelephone stations broadcasting on a wavelength of 360 meters can often be tuned in on wavelengths around 180 meters and stations on 1,450 meters can often be tuned in a little above the 360 meter stations. This is due to the presence of harmonics of the fundamental frequency present in the radiated wave.

Good results can be obtained with properly utilized crystal detector receiving sets. It was not unusual for amateurs in New York to hear the Naval Station in Colon, Panama, on crystal detectors on winter evenings in the days before the vacuum tube came into general use.

Best receiving is usually accomplished on a clear cold night in the winter time, when there is no static and distant stations may be heard louder than at any other time of the year.

Miniature radio receiving sets are little more than novelties and usually lack many of the important features of a good receiving set. For most efficient operations it is necessary to employ a minimum size of coil, wire and condensers and smaller parts than these are found to materially affect the strength of the received signals.

The Federal Law requires that the operators of all radio transmitting stations be properly licensed and a license must also be secured for the radio station itself. The operator's license entitles him to operate any amateur station but the station license covers the particular equipment at the location given in the license.

Amateur station licenses are issued only to citizens of the United States, but operators' licenses are issued to anyone who passes the required examination which consists of a ten word code test and a written examination covering the operation of the transmitter and receiver and a knowledge of the radio laws and regulations.

Any transmitting station which is capable of transmitting messages beyond the jurisdiction of the state in which it is located or which is capable of causing interference with the reception of messages from beyond the jurisdiction of the state is required by the Federal Law to be licensed. This means that practically all transmitting stations require licenses.

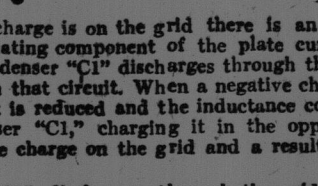
Operators of receiving stations are subject to a fine of \$200, or imprisonment for three months, or both for the disclosure of the contents of any messages to other than the person for whom the message is intended. Licensed operators are required to execute an oath of secrecy before a notary public. (All rights reserved by United Feature Syndicate. Reproduction prohibited.)

Lesson No. 164.

REGENERATION WITH ELECTROSTATIC COUPLING.

The popular idea of a regenerative receiver is an audio tube receiver with a tickler coil to couple to the grid circuit or two variometers to tune the plate and grid circuits. It is possible to get regeneration by means of electrostatic coupling applied in the manner indicated in the diagram. This arrangement involves a combination of the plate circuit tuning method and the coupling feed back method to secure regeneration.

In the diagram "L" is the coupling coil of the secondary circuit by which the energy is transferred from the primary or antenna circuit, "L" being another portion of the secondary circuit and may be a variometer also. The telephone and the plate battery are shunted by a fixed condenser to pass the radio-frequency current. "C" indicates a fixed condenser common to both the plate and grid circuits inserted in the common filament lead constituting the feed back condenser. This condenser is shunted by an iron core inductance coil having a very high value of inductance. The purpose of this coil is to complete the plate circuit for the continuous or direct current flowing into this circuit, at the same time not allowing the radio-frequency energy to pass. The radio-frequency currents find a path of low impedance through the condenser "C".



When a positive charge is on the grid there is an increase in the plate current and the alternating component of the plate current charges the condenser "C". The condenser "C" discharges through the grid circuit reinforcing the oscillations in that circuit. When a negative charge is placed upon the grid the plate current is reduced and the inductance coil "L" discharges into the coupling condenser "C", charging it in the opposite direction to that caused by the positive charge on the grid and a resulting increase of plate current.

The condenser "C" discharges through the grid circuit reinforcing the oscillations in that circuit.

The circuit herein described is excellent for the reception of the longer wave lengths, that is, the lower frequencies. The ordinary regenerative receiver employing two variometers and dependent upon the capacity of the tube to secure regeneration works very efficiently on the shorter waves, and in order to secure best results the secondary shunt condenser must be of small value.

Applications of the circuit shown have been extensively made in certain types of navy tuners which employ condenser feed back systems in the form of Hien oscillators. It is noted, however, that the tuners which have this feature are designed principally for long wave work and will not oscillate on the shorter waves.

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RECENT WEDDINGS
Hollett-Matheson.
A quiet wedding was solemnized in the Ramoth street Methodist church yesterday afternoon by Rev. H. E. Thomas, when Miss Emma Matheson became the bride of George William Hollett, son of J. W. Hollett, of Macadam Junction. The bride, who was unattended, is a daughter of Mr. and Mrs. Matheson, of Summerside, P. E. I. After a short visit to the home of the bride's parents, Mr. and Mrs. Hollett will make their home at Macadam Junction.

Kavanaugh-McLerney.
Richibucto, Nov. 28.—At St. Aloisius' church on Wednesday morning, Nov. 22, Miss Alice McLerney, youngest daughter of the late John McLerney, of Richibucto, was united in marriage to Albert Kavanaugh, of Moncton, son of Mr. and Mrs. James Kavanaugh, of this town, by Rev. James McLaughlin. Only immediate relatives of the families were present. Following the ceremony a wedding breakfast was served at the home of the bride's mother, Mrs. John McLerney, Richibucto, after which Mr. and Mrs. Kavanaugh left on a bridal trip to Boston.

Automobile fuel and various oils for the past trade are now being produced from New Zealand's kauri gum deposits.

RECENT DEATHS
Mrs. John Draper.
The death occurred yesterday at her home, 180 Millidge avenue, of Mrs. John Draper. She had been ill for quite a long time. Her husband and two little daughters, Alice, aged nine, and Gladys, aged five, survive her. She leaves five sisters and one brother; the sisters are Mrs. Arthur Roberts, Mrs. Samuel Wilson and Miss Doris Johnson, living in England, and the Misses Evelyn and Mabel Johnson living in St. John. The sympathy of many friends in the city will go out to the bereaved family.

WOODSTOCK PERSONALS.
(Woodstock Press)
Friends of Mrs. Arthur Fisher, daughter of Hon. F. B. Carvell and Mrs. Carvell, will be pleased to know that she is recovering from a serious attack of pneumonia.

Mrs. Albert Smith and family left for Edmonton, Alberta, last week, to join her husband who returned there last summer.

Miss Myles of Moncton, has entered upon the duties as assistant matron at the Fisher Hospital in succession to Miss White, who has resigned. Miss White left on Tuesday for New York, where she will take a post graduate course in her profession.

Mrs. T. A. Lindsay left this week for Pittsburg, Penn., to spend the winter with her son Donald. Miss Marion, her daughter, went a few weeks ago. Wm. Sullivan, accompanied by his mother, Mrs. Sarah Sullivan, left on Thursday for the Sanatorium at St. John in an endeavor to recover his health.

WHITE STAR SERVICE
BRIMMERHAVEN-NEW YORK
Brimmerhaven, Nov. 30.—Formal ceremonies aboard the new steamship Pittsburg, yesterday, marked the inauguration, by the White Star Line, of its service from Brimmerhaven to New York.

FUNERALS.
The funeral of William L. Ingraham of Little River, which took place there yesterday afternoon was largely attended. Rev. William Lawson officiated, and many friends followed the body to Fernhill. Young Ingraham met death in a saw mill near Hampton last Saturday by being caught in the machinery.

Special Sale —OF— China

English Cups and Saucers in great variety at greatly reduced prices.

W. H. HAYWARD CO.
LIMITED
85 to 93 PRINCESS STREET



Comfort Slippers for Everyone

How pleasant it is to see a home where everyone, young and old, enjoys spending their evenings within the family circle. In such a home, every thought is for comfort and happiness. In homes of this kind, such thoughtful gifts as house-slippers are sure to find a place on someone's gift list.

Women's Dainty Kosey Felt Slippers \$1.25 to \$2.65
Colors—Grey, Brown, Red, Rose, Blue.
Men's Heavy Felt Slippers \$4.25 to \$5.50
Plain Colors or Warm Plaid.

Children's Warm Slippers 70c. to \$1.65
Colors—Red, Grey, Brown, Blue.
RELIABLE FOOTWEAR AT FAIR PRICES.

WATERBURY & RISING, Ltd.
THREE STORES

Valuable Advice!

No man can afford to spend days, months and even years, in acquiring a knowledge of Jewellery, that will safeguard him in all his purchases, therefore, it is well to take the advice of a reputable house.

QUALITY STONES OF PERMANENT VALUE
You may purchase here, only diamonds that have been selected after minute inspection, and critical comparisons.

The finer the Diamond, the greater its natural increase in value.

You can depend upon our recommendations, as honest, and authoritative.

FERGUSON & PAGE
THE JEWELERS - - - 41 KING STREET

Stores Open 8.30 a.m. - Close 6 p.m.
Saturday 10 p.m. Phone 2400.

It's The Spirit of Christmas That Counts

In This Big Gift Store the Spirit of Christmas is evident on every side. Special displays of timely interest make it both pleasurable and profitable to shop here.

Pre-Christmas Clearance of Fine Blouses

Some Are Slightly Soiled.

Remarkable Bargains While They Last

\$2.55, \$3.25 \$4.95 each.



Only a limited quantity of these bargain blouses, but every one is marked at a decided reduction to insure immediate disposal.

Included are Overblouses, Tuxedos, Convertible Collars and Peter Pan styles in Crepe-de-chine, Messaline, Habutai, and Washable Jap Silks.

Styles are all popular. Among the colors are Flesh, Sand, Grey, Navy, Coral, Light Blue; as well as white and black.

Sale Commences Friday Morning.

No appropriation or exchange.

(Blouse Dept., 2nd floor.)

A Special Group of Remarkably Smart Hats

Bargain Priced \$3 each

These are the popular soft brimmed, soft crowned hats made from a combination of black velvet and silver or gold metallic cloth.

Small rolled brim shapes, particularly suitable for wearing with heavy coats or street suits. Just what you'll like for an extra hat to wear any time.

Afternoon Hats

In shapes, trimmings and materials representing what is newest and most in demand this season. Specially priced at \$6.50 and \$8.50 each.

(Millinery Salon, 2nd floor.)



A Wonderful Variety of Gift Umbrellas



This season, an Umbrella is a very attractive gift—and one that's bound to be very useful too. Latest arrivals here are showing in black, bright green, purple, and navy. In many cases these are made with bakelite rings or smart leather strap handles. They are tipped with white or amber color, and have sturdy ends to match the color of handles.

Hand-Curved Handles are also among the newest ideas and may be found here in very elaborate designs. Coverings are of excellent quality silk. Prices \$10 to \$18. Other Umbrellas with strong coverings of different materials \$1.75 up. Children's Umbrellas 50c to \$2.50 (Silk Dept., 2nd floor.)

From the Art Room

Come Gifts of Refinement

We Can Only Mention a Few
of Them Here

Toyland

Wise folks are making their selections from the Toy Stocks now.

You'll find a great number of Toys, Tree Ornaments, Christmas favors, and decorations here now that will be hard to find nearer Christmas. It's really a good idea to look after these things early.

Dolls, Trains, Meccano Sets, Games, Books, Kiddy Cars—just about everything in the line of toys here.

(German street entrance.)

Cut Crystal Bowls and Vases,
Silver Fruit and Flower Baskets,
Royal Staffordshire Bowls and Vases,
Reading and Boudoir Lamps,
Floor Lamps with Silk Shades,
China Breakfast Sets,
Mahogany Candlesticks and Candles,
Mahogany Clocks with or without chiming,
Ivory Toilet and Manicure Pieces,
China Cups and Saucers,
Coffee Percolators,
Polychrome Book Ends and
Candlesticks,
Artificial Roses and Other
Flowers,
Silver Tableware,
Toiletries of Rare Distinction.

Other things equally attractive and in great variety. Whether you wish something dainty and inexpensive or a gift of more elaborate nature, you'll be able to find it here.

(German street entrance.)

As a Special Suggestion "A Hoover"

We are offering you the opportunity to buy a "Hoover" electric Vacuum Suction Sweeper on very special terms for a short time only.

\$4.75 First Payment
and the balance in small
monthly payments.

A great many people have already taken advantage of this big special offer. We think you'll be sorry if you don't see about getting one too.

The "Hoover" is the only electric vacuum sweeper that "beats as it sweeps as it cleans."

Phone 2400 and ask for the "Hoover Man."

(German street entrance.)

This Week

We are offering another exceptional bargain.

Men's Best Quality Boots

Regularly priced from \$9 to \$12 a pair, in black and brown, in a number of styles.

All One Price

YOUR CHOICE AT

6.75

You will be fortunate indeed if your size and fitting is among these bargains.

Some styles shown in our window.
McROBBIE
Foot St. John 50 King Street
Fitters

Pretty Silk Underthings

Excellent personal gifts and right in line with the trend of the day of giving useful things.

Delightful varied styles.

Silk petti-bloomers, all colors, \$4.95.

Silk Camisoles, all new ideas, 85c. to \$3.65.

Silk Tunic Slips, \$5.95.

Silk combinations and "step-ins," \$2.45 to \$6.75.

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F. W. DANIEL & CO.

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