

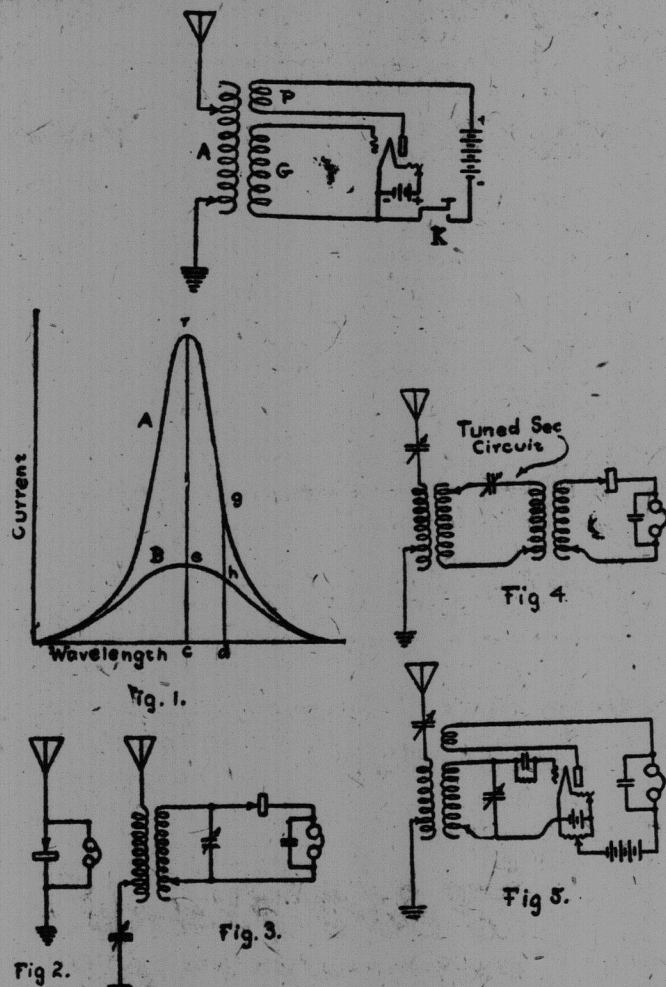
FIFTEEN MINUTES OF RADIO EACH DAY

By Edward N. Davis
Formerly Technical Electrical Expert For U. S.
Government

PRINCIPLES OF TRANSMISSION WITH TUBES.

In a regenerative receiver of the vario-coupler type, adjustments of the plate circuit and secondary circuit may be made which will cause oscillations, this condition being indicated by a dull thud in the telephone when the oscillations start and a distortion of the signals from a spark station. When the primary or antenna circuit is now brought into resonance with the secondary circuit, the oscillations may stop entirely due to the inability of the secondary to supply the energy as rapidly as it is dissipated in the antenna circuit. If adjustments or changes are made in the circuit so that the oscillations continue after resonance is obtained by inserting a key or microphone in the antenna circuit we may employ the system as a radio telegraph or telephone transmitter over short distances.

Since the phenomenon described above is observed only in a regenerative receiver and is not present in a simple tube detector set, there is apparently a principle involved in the regenerative receiver which is also found in the tube transmitter.



If a three element vacuum tube is connected, as shown in the diagram, with a grid coil in inductive relation to the plate coil, it is found that when the key "K" is closed thereby impressing the high potential from the battery "B" on the plate of the tube, oscillations occur as a result of the feeding back of the energy from the plate circuit into the grid circuit and a consequent change in the plate circuit current. This action starts automatically as soon as the key "K" is closed and is due to the fact that the building up of the plate current in the grid coil is accompanied by a rising potential in coil "G" which is impressed upon the grid of the tube. Of course the terminals of the coil "G" must be properly connected to the grid and filament or no oscillations will occur when direct current is employed on the plate. If no oscillations take place the terminals should merely be reversed. The building up of the grid voltage positively and the consequent increase of plate current proceeds until the plate current reaches saturation, at which time, the plate current is not changing and therefore the grid potential ceases to build up. The grid loses some of its positive charge and the plate current immediately falls off, a falling plate current inducing an electromotive force in the grid coil which makes the grid more negative, since the effect on the grid coil is opposite to what it would be with a rising plate current. When the plate current reaches practically zero the grid loses its negative charge and returns to zero potential at which time the plate current commences to rise again to its normal value and the cycle of events repeats itself. The rate at which the cycle is repeated or the frequency, is dependent upon the electrical constants of the circuits, that is, the inductance and capacity.

The coils "P" and "G" are in inductive relation to a third coil "A" which is in the antenna-ground circuit so that the oscillations are transferred to the aerial and radiated in the form of electric waves. Forming the characters of the telegraphic code by means of the key "K" causes corresponding waves to be emitted which are intercepted by the distant receiving antenna, detected by the receiving apparatus and interpreted by the receiving operator.

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Clearance Sale of Nippon China

Teacups, Saucers and Plates	\$5.00 dozen	Reduced from \$11.00 dozen
Cream Pitchers	25c each	60c each
Bowls	20c each	50c each
Cake Plates	40c each	90c each
Sugar Bowls	30c each	75c each

W. H. HAYWARD CO.,
LIMITED
85-93 Princess St.

AMDUR'S BARGAIN BULLETINS RESUMED

The great feature of last year is again to be offered now, that the Amdur store, completely renovated, is back to normal. Each afternoon, a bulletin will be published and each bulletin will announce a special, drastic cut on a wanted line of goods.

1923--Amdur's Bargain Bulletin, No. 1--1923

Specials For Wednesday Only

Ladies' Heather Hose	59c
Grey Cotton, 52 inches wide	Yard
Regular Price 28c yard	20c

Amdur's, Ltd., No. 1 King Square

RECENT DEATHS

Mrs. E. C. Waterhouse.

Word has been received here of the death in Honolulu on Saturday of Mrs. E. C. Waterhouse who was killed in a motor accident. Her husband, Dr. Waterhouse, although injured is not considered to be in a serious condition. Mrs. Waterhouse was the daughter of W. S. Harding of Wexford and a grand-daughter of the late Dr. W. S. Harding of this city. She leaves her husband, two daughters, one son, Leigh of Wexford, four brothers, William Harding of Hammond River, George of the Malay States, Thomas and Vernon of Wexford, and two sisters.

George W. Boyd.

George W. Boyd, formerly manager of the American Laundry in Charlotte street, was killed by an automobile in Somerville, Mass., recently. He was taken to a hospital with a fractured skull and died soon after being admitted. The driver of the car was arrested charged with operating a car carelessly. Mr. Boyd is survived by his wife, one son, one brother and one sister.

The Late Mrs. Mary McL. Mahoney.

Boston Post, Feb. 8.—The funeral of Mrs. Mary McL. Mahoney of 7 Juniper street, Roxbury, took place yesterday morning with a high mass of requiem at St. Joseph's church, Circuit street, Roxbury. The Rev. Dennis F. Sullivan was the celebrant.

Among those who were at the funeral was her daughter, Mrs. Bowden, wife of Prof. W. C. Bowden of St. John, who went from here on receiving news of her mother's death.

William Cummins.

The death of William Cummins occurred yesterday at his home, 139 Pitt

street, after a lingering illness. Mr. Cummins was a painter by trade, but retired some years ago. He served for more than forty years on the fire department of the city, and at one time was forman of No. 2 Company, and was in the department at the time of the big fire of 1877. Besides his wife he is survived by five daughters, Mrs. J. A. Moore, Mrs. T. W. Moore and Mrs. William McIntosh, of this city; Mrs. J. W. Neely, of Melrose, Mass., and Mrs. D. A. McAdam, of Montreal; three sons, David, George and Harry, all of this city; also two sisters, Miss Martha Cummins and Mrs. M. Morrison, of this city, and one brother, Robert, of Lihlen, Mass.

TO LIFT WAR TIME CONTROL FROM COMMERCE IN THE COMMONWEALTH

Sydney, Australia, Feb. 20.—(Canadian Press)—Prime Minister Captain S. M. Bruce emphatically declared yesterday that the government was going to lift all war time control of commerce and industry.

"That country is best governed which is governed least," he said.

AGED WOMAN PREACHER IS DEAD IN LONDON

London, Feb. 20.—Mrs. Laura Ormiston Chant, preacher, writer and composer, died at Banbury recently. She was seventy-five years old. Soon after her marriage in 1867, Mrs. Chant took up the cause of woman's suffrage. She also lectured on temperance, Liberal politics and social subjects. For her efforts in aiding nurses to the Greek frontier and Crete she received the Red Cross from Queen Victoria, in behalf of the then King and Queen of Greece. Mrs. Chant wrote novels and sermons, and composed numerous songs.

Stores open 9 a.m., close 6 p.m. during winter months.

New Spring Silks Are Unquestionably Beautiful

Never before have Silks of all kinds been so entirely fashionable—a note of novelty everywhere is seen in the new weaves.

Spring's color card, like the rest of spring's fashions, enthusiastically meets every expectation.

This store cordially invites you to see these new and beautiful fabrics.



THE NEW FLAT CREPES FOR DRESSES AND BLOUSES

Showing in such new shades as: Venice, whirlpool, sunburst, burnt orange, tangerine, opal, taupe, sand—as well as black and navy blue. 39 in. wide.

TRICOLETTE

Tubular style especially suitable for underwear. May be had in white, pink, orchid, dove and black. Plain or drop stitch. 36 in. wide.

BROCADED CANTON CREPE

Very effective alone or in combination with other materials. The colors include jade, lacuna, cocoa, whirlpool, clunder, seal, navy and black. 40 in. wide.

STRIPED SPORT SATINS

The very newest idea for sport skirts. White, tithan, verdigris, seal and black with stripe of self color. 42 in. wide.

CREPE FRISOLE

One of the handsomest new crepe weaves. Among the shades are: Bitterweet, jade, bobolink, brown, navy and black. 40 in. wide.

CREPE MARVILLE

A very handsome fabric in brown, clunder, sand, blue bell, navy and black. 40 in. wide.

ALLTYME CREPE

Similar in appearance to crepe knit, but softer in weave. Showing in many beautiful colors. Some of the most attractive are: Lavender, clunder, titan, cream, sandalwood, bluebell, Memphis, crushed berry and white. 36 inches wide.

BARONETTE SATIN

In white, black, fog, wall flower and navy. 39 inches wide.

ART CREPE

In beautiful shades of burnt orange, clunder, hills, bobolink, navy, with well as black and white. 39 in. wide.

TRAFALGAR CREPE

In white, sand, gold, periwinkle and brown. 36 inches wide.

CANTON CREPE

In bitterweet, wall flower, cocoa, toast, opal, whirlpool, seal, navy and black. 40 in. wide.

NEW BATIK CREPE DE CHINES

In attractive color combinations.

MESSALINES, DUCHESSE, CREPE DE CHINES, HABUTAI and GEORGETTES

In all the new and most popular shades.

NEW HEAVY JAP. KIMONO SILKS

In rich, bright colorings. Grounds of gold, rose, grey or saffron, with pattern of contrasting shades. 1 yd. wide.

PONGEE

In pink, jade, sky, peach, orchid, grey, old rose, Copen, brown, navy, American beauty, Paddy green and black and natural. 34 in. wide. (Silk Dept., 2nd floor.)

FEBRUARY FURNITURE SALE NOW GOING ON (Furniture Store, Market Sq.)

Manchester Robertson Allison Limited
KING STREET - GREENIAN STREET - MARKET SQUARE

Here and There at Daniel's Day

All of a thousand special prices, placarded everywhere to guide you in the most convenient departmental store, tell you quickly how you save and save most. Here is a helpful list, a small fraction of what awaits you in every section.

- SMALL GIRLS' COATS, \$2.** Sizes to 11 years.
- Small ladies' and growing girls' coats.** Values \$10.50 to \$15. \$12.50 for collared coats, less than half.
- Misses' cloth coats, worth \$12 to \$16.75.** Values \$6.50 to \$8.50.
- Velours, chinchillas, tweeds and check backs.** Values \$18 to \$27.50. Dollar Day, \$14.99.
- And so with kimono, dresses and skirts.**
- Ladies' fleece-lined bloomers, very roomy, with double gussets, and in grey and white.** 69c.
- Lisle vests of fine rib knit, V-neck and strap.** 25c.
- Wooltex drawers, ankle length and open or closed style.** 89c.
- Odd lines wash spencers, with or without sleeves, every shade.** \$1.
- Jersey knit bloomers in pink or white and elastic knee and waist.** 29c.
- Fine elastic ribbed bloomers, roomy and in white.** 69c.
- Oversize combinations, low neck and short sleeve or high neck and long sleeve.** \$1.29.
- Wooltex combinations, pink and opera style, either knee or ankle length.** \$2.
- SPORT COUTIL CORSETS, \$1.** Made of pink coutil, laces in back, elastic top and four hose supports. \$1.
- Embroidered Swiss Brasieres, with back fasteners, all sizes.** 39c.
- Children's Flannel Gowns, high V-neck and long sleeves, 6 to 16 years.** 95c.
- At half-price—Silk-knitted Wool Overalls, Scarfs, Sweaters, Caps.**
- Children's Middie Blouses, some with detachable collars; 6 to 12 years.** 89c.
- Kiddies' Wash Coats—checks, stripes and plain corded silk—suitable for early spring.** 39c.
- Slip-on Aprons in checked and striped percale.** 29c.
- Polly Prim Aprons in chitrs floral designs.** 89c.
- Apron Dresses, with elastic waist and straight lines in gingham, chambray and percale; checks and stripes in dark shades.** \$1.
- Gingham Morning Dresses with white plique trimmed waist lines.** \$2.
- For collared coats, worth \$12 to \$16.75.** Values \$6.50 to \$8.50.
- Martha Washington Meeting Dresses in checks, gingham, tuxedo collars and ric rac braiding.** \$2.
- BLOUSES, \$1.00.**
- \$1.25 to \$1.98 values, with Tuxedo and Peter Pan collars, assorted lace.** \$1.
- Jap Silk Blouses, worth to \$6.50 for \$3.00.**
- Values to \$6.75 in Georgette Crepe de Chine Overblouses in tailored effects and colors.** \$4.
- Voles worth to \$3.95 for \$2.**
- STAMPED GOWNS, \$1.00.**
- Other Stamped Goods Specials include: Corsets, 78c. Corset Covers, 29c. Pillow Cases, \$1. Huck Towels, 48c. Natural Color Crash Cushion Tops, 29c. Pique Kiddie Dresses, 58c. White and Colored Kiddie Rompers, 98c. Natural Linen Scarfs, 75c. White All-Linen Centres, 18 in. 49c. White All-Linen Pin Cushions, 68c. Odd lines stamped goods at half to clear.**
- Old lines wool to clear at half.**
- GLOVES, HOSE.**
- Chamoisette Gloves in washable shades of mastic, mode, pouge, grey, etc.—all sizes.**
- At Daniel's, Dollar Day, 69c.**
- Fancy Gauntlet Gloves, side fastened, grey, brown, mastic.** Dollar Day, \$1.
- Cape Kid Gloves, cage dome fasteners.** Dollar Day, \$1.49.
- French Kid Gloves, brown, black.** Dollar Day, \$1.
- Black Lisle Hose, trifling imperfections in some.** 3 pairs, \$1.
- Heather Lisle Hose, brown, blue and leather harmonies, same extra excuse**
- for reduction to 29c.**
- Also Silk Hose, plain or ribbed; colors or black.** \$1.
- SERGES, SILKS, RIBBONS.**
- All-wool 52 in. Serge, navy, grey, garnet, green, Copen, taupe; \$1.85 value.**
- For Dollar Day, Wednesday, \$1.29.**
- All-wool 48 in. Serge in navy; worth 88c.** \$6c.
- Duchess Silks in every new and leading color; well worth \$1.99 for \$1.50.**
- Square Vells in black, navy, purple.** 38c.
- 75c. Flowing Vells in silk mesh; colors or black.** 68c.
- Wide Satin Hair Bow Ribbon—splendid at 29c.** 47c.
- White Hemstitched Handkerchiefs, fine lawn.** Per dozen, 50c. Freshet Cretomes.
- 5 Yards, Dollar Day, \$1.45.**
- Chintz, assorted T. key red and black patterns.** 3 Yards, \$1.39.
- White Flannellette, 21 in.** 5 Yards, \$1.
- Lingerie Crepes, plain and fancy; well worth 45c.** 3 for \$1.
- Striped Rippette for children's wear and house dresses.** 5 Yards, \$1.
- LINEN AND TOWELS.**
- Full Sized \$1.39 Sheets.**
- Wednesday, \$1.**
- All-Feather Pillows, strongly covered.** 87c.
- Plain Pillow Slips, 40 to 44, 27 in. hem. Regular 29c.** Four, \$1.
- Turkish Towels, white and colored.** 2 for \$1.00.
- Fine Huck Towels, hemmed and fringed. Regular 29c.** 6 for \$1.
- 35c. Towelling, natural or red stripe.** 5 Yards, \$1.25.
- Linen Glass Towels, large, with red or blue border.** 2 for \$1.
- This is But a Hint of Further Values.**

Daniel

Head of King Street

\$1 DOLLAR DAY

at Waterbury & Rising's

FIRE SALE

Boots and Shoes

677 Main Street

Now in full swing, offers Dollar Day Shoppers many special savings in footwear for immediate or spring wear.

ENTIRE \$12,000 STOCK

to be sold out at once, so store can be handed over to carpenters and painters to have ready for spring business.

A few of the bargains you will find:

Women's 10 Button Oxfords	35c.
Women's Kid Colonial Pumps	\$1.38
Women's Kid Oxfords	\$1.38
Women's Patent Oxfords	\$1.48
Women's Boots	\$1.88 up
Women's Brown Strap Pumps	38c. up
Child's Slippers	48c. up
Child's Boots	48c. up

Strictly cash. No appropriation.

Store open Tuesday, Thursday and Saturday nights.

Shop in the morning and get best choice.

February Sale

OF

Men's, Boys' and Youths' Boots

Union St. and King St. Stores

Offers many bargains only made possible by discontinuing the wholesale branch of our business.

A few of the many bargains include:

Men's Heavy Tan Grain Work Boots	\$3.45
Men's Brown and Black Dressy Boots	\$3.95
Men's Black Boots, medium toe	\$4.65
Men's Black Waterproof Boots	\$5.35
Boys' Boots, sizes 11 to 13, at	\$1.88 to \$2.73
Sizes 1 to 5 at	\$2.28 to \$3.45

King Street Store

SPECIAL FOR WOMEN

\$4.85—Black Kid or Calf, Brown Kid or—\$4.85

Boots. Calf Patent Leather. All heels. Boots.

WATERBURY & RISING, Ltd.

61 King St.

212 Union St.

677 Main St.