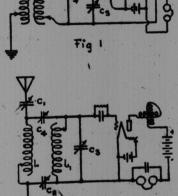
By Edward N. Davis Formerly Technical Electrical Expert For U. S. Government

CAPACITIVE COUPLING IN RADIO RECEIVING CIRCUITS. Coupling in circuits designed for the reception of radio signals may be inductive, conductive or capacitive. Inductive coupling secures a transfer of energy between the primary and secondary circuits by utilizing the properties of the magnetic field and this form of coupling is widely used in both transmitting and receiving systems. In conductive or direct coupling the primary and secondary circuits have an inductance coil in common, the respective circuits having and justable connections tothis coil so as to regulate the number of turns in each circuit. In "capacitive" or "electrostatic" coupling the primary and secondary circuits secure theirmutual electrical relation by utilizing the electrostatic field existing betweenthe plates of a condenser.



In Figure 1 of the accompanying diagram is shown a method of obtaining regenerative action by capacitive coupling. The two variable condensers (C-2) and (C-3) each having a capacity of .001 microfarad are connected in series across the grid and plate of the detector tube and a connection made from the filament to the centre point between these condensers. The two condensers may be mounted on the same shaft and so adjusted that rotation of the shaft will increase the capacity of one and reduce the capacity of the other and at the same time the resultant total capacity of the two condensers will remain practically constant. By this means a change in the regenerative action is produced with but a slight variation in the tuning of the circuit. (C-1) is the series shawl collar styles

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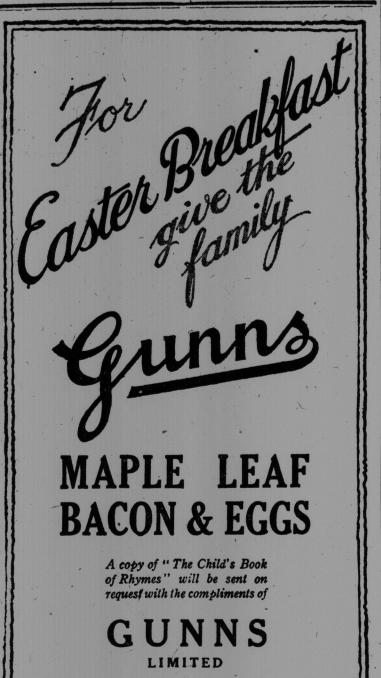
Ladies' Sweaters

White pullovers, V necks; shawl collar styles duced with but a slight variation in the tuning of the circuit. (C-1) is the series condenser for wave length adjustment in the antenna circuit and (C-4) the secondary tuning condenser. Regeneration is obtained by feeding back a portion of the energy in the plate circuit to the grid circuit by utilizing the coupling of the condensers (C-2) and (C-3). The resultant effect of these condensers in series correspond to the

In Figure 2 is shown a form of regenerative circuit containing two single layer coils (L) and (L-1) which constitute two variable inductances, the coupling between these coils being secured by the variable condensers (C-2) and (C-4). These condensers are mounted on the same shaft and each has a capacity of .0005 microfarads. The secondary circuit consists of the inductance coil (L-1) and the variable tuning condensers (C-3) which has a capacity of .001 microfarads. The variable series condenser (C-1) in the antenna circuit has a capacity of the same value. Regeneration is obtained in this receiving system by means of the "tuned-plate" method whereby the plate circuit is tuned by the insertion of a variable inductance, such as a veriometer, as shown in Figure 2. The necessary coupling, by which a portion of the plate circuit energy is fed back to the grid circuit, is secured by the capacity existing between the grid and the plate of the tube itself. Inductance coil (L) may consist or fifty turns of No. 22 cotton-covered wire wound on a tube three and one-half inches in diameter while coil (L-1) has thirty turns of No. 22 cotton-covered wire wound on a tube of the same diameter as (L).

Comparatively sharp tuning and a reduction of Mterference may be obtained by the use of "capacitive coupling" which also affords a rapid and easy method of changing the coupling between the primary and secondary circuits. In comparison with inductive coupling, however, this form of coupling does not give as sharp tuning and as high a degree of selectivity.

St. John, N.B.



Montreal

Toronto

Clearance Sale of Nippon China

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

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

Ladi White p	ies' Sw	veaters V necks styles 5, \$4.95
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W. F. Todd To Succeed Mr. Pugsley As Governor

Ottawa last evening notified Hon. pointed Queen's Counsel by the Domin William Pugsley, Lieutenant-Governor ion government on Feb. 4, 1891. of the province, that his resignation as Political Career.

Lieutenant Governor of New
Brunswick, St. John
I beg to advise you that as requested your resignation as Lieutenant Governor of New Brunswick has been accepted to take effect end of February. W. F. Todd has been appointed to succeed you.

A. B. COPP,
Secretary of State.

First to Congratulate Successor.

First to Congratulate Successor.

The Lieutenant Governor was the first to congratulate Mr. Todd on the appointment as his successor. He sent the following message without delay:

W. F. Todd,
St. Stephen, N. B.
Received despatch from Secretary of State today informing me that my resignation as Lieutenant Governor to become effective on the 28th inst., has been accepted, and that you have been chosen as my successor. Accept my most hearty congratulations.

WILLIAM PUGSLEY.

The Retiring Governor.

The paternal ancestor of Hon. William Pugsley came from England and was one of the earliest settlers on the Croton River, New York. John Pugsley, the great-grandfather of the present Lieutenant Governor of New Brunswick, fought as an officer in the Loyalist forces during the American Revolution and soon after the declaration of peace, came to New Brunswick and settled in the Hammond River valley, Kings county. John Pugsley later returned to New York, but his son, Daniel, settled in Cardwell, Kings county. William Pugsley, the son of Daniel Pugsley, was a successful farmer residing in the vicinity of Sussex and his son, William, was born in Sussex on Sept. 27, 1850, and it was in the common schools of Kings county that he received his early education. The Retiring Governor.

education.

He continued his education at the University of New Brunswick from which he graduated with the degree of B. A. in 1868. His course at the university was a very successful one throughout. He was prizeman in English Literature in 1866; Classics in 1867 and Mathematics in 1868. In his junior year he carried off the Alumni Gold Medal for the best translation of English prose into Latin. He received the degree of B. C. L. in 1871 and that of D. C. L. in 1884.

lish prose into Latin. He received the degree of B. C. L. in 1871 and that of D. C. L. in 1884.

William Pugsley was first married to Miss Fannie Parks, daughter of the late Thomas Parks, of this city, on Jan. 6, 1876. She died in May, 1914, and the following year he married Miss Gertrude Macdonald, of this city. There are two sons, John A., of this city, and William G., of Ottawa. He was called to the bar of the province on June 27, 1872. For ten years he was a reporter of the Supreme Court and was approximately support the simple directions in every package. Don't wonder whether you can dye or tint successfully, because perfect home dyeing is guaranteed with Diamond Dyes even if you have never dyed before. Just tell your druggist whether the material you wish to dye is wool or silk, or whether it is linen, cotton, or mixed goods. Diamond Dyes never streak, spot, fade, or

Women's \$6.50 to \$8.00 Values in Walking Boots. \$3.48 Men's \$8.00 to \$10.00 Values in Walking Boots. \$6.75 Women's Patent and Kid Pumps with medium heels. Sale price \$2.69 Men's One-Buckle Overshoes—sizes 7 and 9 only \$2.05 Women's Fine Quality Button and Lace Boots—sizes 21-2, 3 and 31-2. 3 and 31-2. \$1.45

Sale price \$1.45

Men's Good Quality Heavy
Sole Rubbers—all
sizes. Sale price \$1.10

Women's Broad Toe and Low
Heel Rubbers — sizes 51-2, Sale price ... 53.35
These and many other specials in our windows and on our bargain table await your inspection

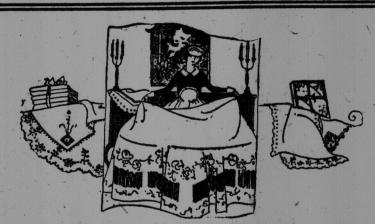
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ANYTHING NEW FOR FEW CENTS

Curtains Ginghams
Sweaters Stockings



Stores open 9 a. m., close 6 p. m.



Big Clearance Sale of Remnants

Free Hemming Sale

Remnants are in usable lengths for household purposes. Some are slightly soiled from handling.

Every article a decided bargain. A fine opportunity to replenish incomplete household supplies at a great saving. Included in the sale are:

Remnants of Bleached and Unbleached Sheeting, Pillow Cotton, Table Damask, Towelling, etc.

Odds and Ends of Towels, Table Cloths, Napkins, Bed Spreads, Tray Cloths, Runners, Centres, D'oyleys, etc.
Sale commences MONDAY.

Early comers will profit by the choice of selection. No ap-

New "Old English Waxer-Polisher"

We are offering one dollar's worth of Old English Wax free.
If you have never used Old English Wax, you do not know how really beautiful and attractive your floors can be made.

This new "Waxer-Polisher" reduces the labor of waxing and polishing to the minimum and only costs

\$4.50 including free gift of wax. (Carpet Dept., Germain street entrance.)

And Odds and Ends Left From Our

Beginning Monday morning and continuing for three days, we will place on the counters in our linen room quantities of remnants and odds and ends left from our linen sale.

(Linen room, ground floor.)

To introduce



Buy **Furniture**

In Our Big February Sale

For the remainder of the month we will have on sale in our Furniture Store, Market Square, a large number of beautiful pieces of furniture for Living Rooms, Dining Rooms, Hed Rooms, Halls and Dens.

These are mostly high grade qualities and are reduced to a fraction of their original worth.

The following example will give you some idea of the very exceptional bargain opportunities available now.

Two Beautiful Walnut Buffets

(One in "Queen Anne" style' Plenty of room for storage, Either piece very desirable in

Original prices \$117 and \$122 Sale \$78.50 each Many other values equally at-

(Market Square)



william Pugaley, Lieutenant-Governor circuits. In comparison with inductive coupling, however, this form of coupling, the coupling however, this form of coupling for the province, that his resignation as possibly a degree of selectivity.

(All Rights Reserved by United Feature Syndiciate. Reproduction Prohibited, Carling. Michael Cullinan, a well known residence of the National Coupling and as high a degree of selectivity.

Michael Cullinan, a well known residence of the National Coupling however, the coupling between the production of the National Coupling however, the coupling between the production of the National Coupling however, this form of the province, that his resignation as a licitude and the province in a by-relation of the late of the coupling however, the coupling however the province in a by-relation of the late of the coupling however the coupling however, the coupling however the coupling however, the coupling however the province in a by-relation of the late of the coupling however the province in a by-relation of the late of the coupling however the province in a by-relation of the late of the coupling however the province in a by-relation of the late of the coupling however have the late of the coupling however the late of the coupling however have the late of the coupling however the late of the coupling however have the

William F. Todd is the son of the late Freeman H. and Adeline Boardman Todd and was born at St. Stephen, N. B., on May 2, 1854. He was married on Oct. 1, 1879, to Miss Ethel J. Bolton, daughter of John Bolton, who was a member of the House of Commons soon after Confederation. He has three children, Mrs. N. Marks Mills, of St. Stephen, and Misses Adeline Boardman and Mildred B. Mr. Todd was a member of the Provincial Legislature for the term beginning in 1899 and was elected to the House of Commons as a supporter of the Liberal party in the general elections of 1908. He was the Liberal party's standard-bearer in the general elections of 1911, 1917 and 1921, but was unsuccessful at the polls. He is now a prominent merchant in the town of St. Stephen. In religion he is a Universalist. The New Governor.

linard's Liniment for Aches and Pains. A horse owned by Isaac Griffith was drowned yesterday about noon when snow was being dumped from the Market wharf on the West Side. The horse was being backed to the edge of the wharf and suddenly speeded up, pushing the sled over the edge. The weight of snow and sled pulled the horse over and it was sucked under by the current. An alarm from Box 114 brought the firemen from No. 6 station, but they could not save the animal.



SOAP

Boys just love its smooth fragrant lather BEST for BABY - BEST for YOU "Bring On The Spring I'll Cut a New Caper in This House Dress"

Easter's right on the doorstep, so it's hurry and scurry with the earliest house-cleaning ever! What's the first good word? Right this way—a new cut of House Dress, with the cut extending to the price.

Martha Washingtons—called Morning Dresses if you please—have straight and waist lines, tied with a trim sash girdle. Gingham checks and plaids with white Pique collars and occasional vestee, and embroidered Chambrays. Every size, big and small, like this—\$3.65 and \$3.35 Dutchy Dust Caps, like you find in Good House-keeping, and a perfect cover-all at 18c and 15c

Coy, Capable-the Skirt Apron

Bouffant indicated the line, Cambric stripes and prints the material, ric-rac edge and patch pocket the trim and 39c the possession.

85c and 98c choose Bungalow Aprons, even in odd sizes, of Canadian Prints.

About Those Bed-Spreads—

Most any price enjoys a preference Honeycomb notions, the sunken Marcella and the White Crepe. Nine prices for double beds, from \$10.50 down to \$2.25

Announcement of the Curtain importations would make a story all by itself the same as the Tapestried Cretonnes, but you'll find about a million.

Monday's Advertisement Will Tell Who's

Who For Dollar Day.

Corner of King



KIMBALL ESTATE \$3,000,000. 000, according to papers filed in Surro- Gaylord Mitchell, another brother, secgate's Court here. Mrs. Cecilia M. K. retary-treasurer of the company, \$277,-

Rochester Woman Left Property to Daughter and Two Brothers.

Rochester, N. Y., Feb. 17—Mrs.

Laura M. Kimball, who died Nov. 27, 1922. left an estate in excess of \$3,000,
gate's Court here. Mrs. Cecilia M. K.

Gordon of this city, a daughter, will receive the bulk of the estate, \$1,189,149.80; Francis B. Mitchell, brother, gallery and conservatory, valued at \$100,000; the Post-Express Building, valued at \$200,000, and greenhouses are received at \$200,000, and greenhouses are received at \$200,000.