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THE EVENING TIMES AND STAR, ST. JOHN, N. B., FRIDAY, FEBRUARY 16, 1923

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FIFTEEN MINUTES OF RADIO EACH DAY

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Government

RESISTANCE.
Lesson No. 234.

Resistance may be defined as the opposition to the flow of current through an electrical circuit. The unit of resistance is the ohm and a conductor is said to have a resistance of one ohm when the steady application of an electromotive force of one volt causes a current flow of one ampere. This is based on the relation existing, in an electrical circuit, between currents, pressure and resistance which is stated by Ohm's law as follows:

RESISTANCE (OHMS) EQUALS PRESSURE (VOLTS) DIVIDED BY CURRENT (AMPERES)

In circuits employed for the transmission or reception of radio signals, resistance is an important factor. In the simpler forms of receiving circuits using a crystal detector, broad tuning and a low degree of selectivity results from the comparatively high resistance offered by the detector to the currents of radio-frequency. Various forms of coupled circuits have been devised for minimizing the effect of this resistance and in receiving circuits using a vacuum tube detector, utilization of the property of regeneration, permits sharp tuning by reducing the circuit resistance to an extremely low value. This regenerative action is accomplished by feeding-back to the grid circuit a portion of the plate circuit energy and thus balancing-out the effect of the circuit resistance.

Units of apparatus varying widely in their values of ohmic resistance are connected in radio circuits, for example, the resistance of filament rheostats for amplifier and detector tubes, has a maximum value of approximately 6 ohms and is mechanically arranged so as to be variable in order that a filament current of 12 amperes may be drawn from the 6 volts storage battery. Potentiometers connected across the terminals of the filament battery have a resistance of 200 to 400 ohms and are used either as "stabilizers" for amplifier tubes or as a means of securing a closely adjustable value of plate voltage on the detector tube. A potentiometer so connected allows a very small value of current to flow, as according to Ohm's law, a pressure of 6 volts applied to a resistance of 300 ohms allows a current flow of .02 amperes. Grid leaks connected in shunt to the grid condenser in receiving sets may have values ranging from 50,000 ohms to 5 million ohms (5 megohms). The resistance of receiving telephones is approximately 2,000 to 3,000 ohms.

In order to obtain satisfactory reception of radio signals, particularly those broadcasted on short wave lengths, it is necessary that the outdoor antenna be so constructed as to have a low resistance. This is due to the fact that with a constant impressed voltage the flow of current is inversely proportional to the resistance, that is, the less resistance possessed by the antenna, the greater will be the flow of current in the receiving system.

The resistance of the antenna system must therefore be kept low in order to secure as large a value of antenna current as possible, for a reduction in antenna resistance causes an increase in the amount of current flowing in the receiving set and results in an increased volume of sound. This is particularly

important in vacuum tube receivers, as an increase in the antenna current, resulting from a decrease in the antenna resistance, produces a greatly increased output due to the amplifying action of the receiver.
It has been determined experimentally that a single wire 100 feet in length, stretched over grass ground at a height of 40 feet with the ground connection made to a water pipe, has a resistance of about 10 ohms at 900 meters. A properly erected receiving antenna of the outdoor type should, therefore, have all joints soldered, should be well insulated and located free from contact with surrounding objects and have a ground connection soldered to the clean surface of a water pipe.
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AMDUR'S Re-opening Exhibition! FOR CARNIVAL WEEK!

Ladies' Sweaters	Men's Sweaters
White pullovers, V-necks; shawl collar styles	Coat Sweaters \$1.50
\$2.95, \$3.95, \$4.95	Jumbo-Knit, Pure Wool Sweaters... \$3.50
Golf Hose 49c	Men's Jersey Sweaters - Extra Fine Quality \$2.50
Fleece-lined Bloomers 59c	Men's Mufflers 69c
	Boys' Fine Jersey Pullovers 98c

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

While They Last Laundry Bags for 35c.

The safest and the most economical way of sending wet wash. Bags will hold up to 50 lbs. dry clothes. Will outwear many tubs or baskets.

Ask the Driver for Yours—NOW

DRY-CLEANING & DYEING — WET WASH & ROUGH DRY
PHONE 1707
New System Laundry Limited
WET WASH, FRENCH DRY-CLEANING AND DYEING
30-40 LANSDOWNE AVE.

PINE BOARDS FOR JOBBING

We have a good stock of nice Pine Boards, bone dry, cut two years ago, just the thing for carpenter shops; for jobbing and for inside work. Dressed one or both sides.

PRICE—\$35.00
Phone Main 3000.

MURRAY & GREGORY, LTD.
EVERYTHING IN WOOD AND GLASS FOR BUILDINGS.

FIRE SALE

Greatest Bargain Event of the
Kind in the History of St. John

Starts Saturday, February 17,
at Waterbury & Rising's North
End Store, 677 Main Street

"The Waterbury & Rising store suffered from the huge quantities of water poured into the building, although the Salvage Corps did excellent work in covering the stock, which was unusually large, a consignment of new footwear having been received on last Saturday." (Daily Telegraph, Thursday, February 8.)

This is YOUR Opportunity to Secure for Yourself and Family

Boots and Shoes

Strictly
Cash
No
Approbation

at Fire sale Prices never before heard of hereabouts—prices that ONLY a fire sale can make possible. Everything must go.

The Entire \$12,000 Stock
Only Slightly Damaged by Water and Smoke

Our loss is your gain. The earlier you come the better chance for selection. Remember, our NORTH END STORE.

**Store
Hours**
Opens 10 a.m.
Saturday
On Following
Days
Mornings, 9 to 1
Afternoons, 2 to 6
Open Evenings

677 Main Street
STARTING
Saturday Morning, Feb. 17th
AT 10 O'CLOCK

KEEP IN MIND—Strictly Cash. No Approbation. Extra Sales
People to Wait on You Promptly.
SHOP HERE DURING THE MORNING

677
MAIN
ST.

Waterbury & Rising, Ltd.

677
MAIN
ST.

RECENT DEATHS

Mrs. James McCafferty.

The death of Mrs. James McCafferty occurred yesterday afternoon at the residence of her daughter, Mrs. James Kingston, 146 Paradise row. Mrs. McCafferty was in her sixty-ninth year and is survived by two sons, Charles H. and J. Daniel McCafferty, of St. John; and four daughters, Mrs. Edward A. Farren, Mrs. George H. Lawson, Mrs. James Kingston, and Mrs. John B. Stevens, also of St. John. The brothers are Thomas Graham of Kouchibouguac and George Graham of Kent Junction. The sisters are Mrs. James Fitzpatrick, of Richibucto; Mrs. Harry Whalen, of Kent Junction, and Mrs. Robert Alphonse, of Campbellton. The funeral service will be held at the house Friday evening at 8 o'clock by Rev. F. S. Dowling, of St. Andrew's church. Interment will take place in Kouchibouguac.

Marion E. MacKinnon.

The death of Marion Eugene MacKinnon, occurred yesterday at the home of her parents, 82 Church avenue, Fairville. Besides her parents, she is survived by her brothers and five sisters. The funeral will take place on Sunday afternoon at 2:30 o'clock to St. Rose's church.

Elizabeth J. McNeeley.

The death of Elizabeth J. McNeeley, widow of Edward F. McNeeley, occurred last evening at the home of W. L. Williams, 212 Princess street. She was a resident of West St. John until just lately, her husband, who pre-deceased her a few years ago, being a well known stevedore of this city. She is survived by two daughters, Mrs. James O'Brien and Miss Regina McNeeley, both of West St. John, and one sister, Miss Ellen George, also of this city.

Howard E. Codner.

A well known and highly respected resident of the north end, Howard E. Codner, died yesterday at his home in High street. For many years he was an alderman for Dufferin ward under the aldermanic system. He was for a long period on the staff of the Globe and had a wide acquaintance along the waterfront. He was a Liberal in politics and a member of the I.O.O.F., in which latter organization he had held many high offices. He is survived by his wife and one daughter, Miss Gertrude, at home. The funeral will be held on Saturday afternoon at two o'clock from his late residence.

Arthur W. Sharp.

Arthur W. Sharp of Hampton died yesterday at his home at the age of seventy years he was prominent in the life of the city and county of St. John and for fifteen years was chairman of the Board of Assessors. He was also inspector of federal taxation. He was a member of the Masonic fraternity, a member of the Thistle Curling Club and the Hampton Curling Club. He is survived by his wife, who was formerly Miss Phoebe Smith, daughter of the late Richard and Eleanor Smith, of Hampton, and one sister, Mrs. Harry Bigwood, of St. Lawrence, Mass. The funeral will be held on Monday at 2:30 o'clock from his late residence. The body will be brought to St. John for burial, and interment will take place in Fernhill cemetery on the arrival of the noon suburban train.

**BABY FOUND ON
DOORSTEP NAMED NANCY
HANKS LINCOLN**
New York, Feb. 16.—The name of Nancy Hanks Lincoln. President Lin-

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

New Spring Models in Boys' "Kloth Klads"

If your boy has worn "Kloth Klads" previously, we need not tell you of the excellent wearing qualities they possess. IF HE HAS NOT—we would like to call your attention to the fact that all "Kloth Klads" suits are made by people who specialize on Boys' Clothes. They have studied the "wearing problem" and as a result have manufactured clothes as nearly as BOYPROOF as suits could be.

Spring models are showing in a pleasing assortment of light and medium shades of grey; also neat heather mixtures. There are fancy pleated, yoke and plain sack styles.

Prices are no higher than for ordinary suits.

Men's and Boys' Caps

Our present collection will meet the demands of the most exacting. All the newest shapes and colors are included.

BOYS' 90c to \$1.75 MEN'S \$1.50 to \$3.25
(Boys' Shop, 2nd floor.)

Big Carnival Week Special in Men's Neckwear

Positively the biggest value offered this season. Made from Swiss Silk of excellent wearing quality. The patterns are neat and attractive and the variety extensive. Fashionable shapes. Only 75c each.

Men's Spring Gloves

\$1.50 Pr

This is Another Big Carnival
Week Special

By buying gloves now you will make a good saving. Included in this special offering are:
Chamois, Grey Mocha and Tan or Brown Caps.
All reliable makes and good fitting.
(Men's furnishings, ground floor.)

Sale of Fine Furniture Now Going On

If you're needing some particular piece for living room, dining room, bedroom or hall, you'll probably find it among the sale articles and at a very great price reduction.

Included among the many bargains you will find:

Sets of Dining Room Chairs in fumed oak with leather seats. 5 side chairs and one armchair in set.

\$30, \$35 and \$58.50 Set.

These are really remarkable bargains.
(Furniture Store, Market Sq.)

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

Curfew Rings Out Carnival Economies Tomorrow Evening

Never was such convenient saving! You'll never have to look for Carnival tidbits here tomorrow—they look right at you as you enter on the way to the first floor Annex.

Before coming to Curtains, Yard Goods and such, discover—

Hemstitch Lawn Handkerchiefs, six for 50c.
A thousand Yells worth double or treble the price in chinai spots and bright motifs of embroidery at each 18c.

Botany Wool Hose with such imperfections as one being half an inch longer, or a missed stitch, but with all the wear there, at 6c.

Botany Cashmere Hose, sacrificed for similar reason, 5c. And Silks at 7c, with Cashmere tops, heel and toe, in nickel, fawn, brown and black, 7c.

English Brushed Wool Gloves in Grey, 89c

Chamoisette Gloves in covert and mode, suede finished and silk stitched, double dome fastened, a fresh notion and also a Carnival pricing at 85c.

And half a dozen Hose and Glove finds not in numbers enough to advertise.

\$1.65 Botany Wool Serge, \$1.29

5,000 yards of Ginghams at 29c, in plaids and checks, 1923 effects.

2,000 yards of the new Duchesse Paillette Silk announcing 1923 colorings like scarab, bonfire, jade-blue, ocean along with sky, helio, flame, jade-green, mauve, burnt orange, honeydew, black, white and ivory. Satiny elegance for frock, skirt or blouse, \$1.69 yard.

With Canadian Homespuns in higher accent, here are hammocks featuring in turn grey, fawn and blue. Generous 56 inch width for making that spring costume at \$1.95 yard.

Curtains, Slips and Towels

Hemstitch and lace edged Voile Curtains, full length and four designs, per pair, \$1.58.

Myriads of Marquisettes with satin striped edging—Cream, Ivory and Ecru—5 yards, \$1.45.

Large 75c Turkish Towels, white with colored borders, 69c.

Striped Turkish Towels, 59c. Others, 39c.

Pillowslips, bleached and hemmed, 40, 42 and 44 in. 49c. Others 29c. and four for \$1.

DANIEL
Corner of King

coln's mother, was entered on the roll of patients at the General Hospital. Elizabeth, N. J. Nancy is not a relative of the martyred President, nor is she ill. She is a handsome, healthy, blue-eyed baby, two months old, whose name was presented to her by the hospital authorities, in honor of Lincoln's birthday, when she was brought in by a patrolman, laughing as cheerfully as if she had not been abandoned a short time before on the doorstep of 521 East Grand Street, Elizabeth. The hospital will remain her home until the police discover her parents or a family adopts her.

A boy born to Detective and Mrs. Max Leef was promptly named Abraham Lincoln Leef. Mr. Leef's associates of the West Thirtieth Street Station sent a huge horseshoe of flowers to the bedside of Mrs. Leef and the martyred President's namesake.