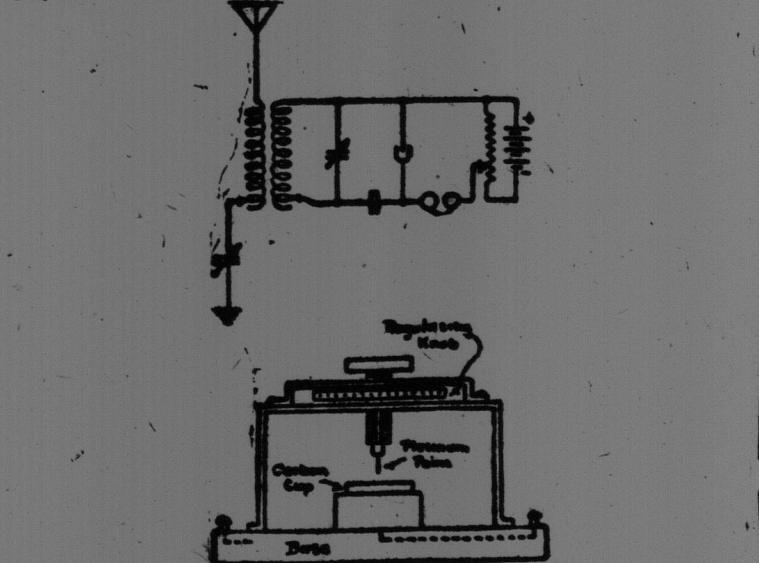


FIFTEEN MINUTES OF RADIO EACH DAY

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

Lesson No. 17.
THE ELECTROLYTIC DETECTOR.
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There is a type of detector which is connected in circuit for detecting wireless waves in a way similar to the crystal detector but which employs a fine wire resting in an acid solution instead of a crystal. This type of detector known as the electrolytic is a very sensitive detector when properly used but is little used at the present time due to large numbers of crystal and tube detectors which are much more easily adjusted and involve the handling of no fine wires and dangerous acids.



In its usual form the electrolytic detector consists of a carbon cup mounted upon an insulating base and containing a twenty per cent solution of nitric acid and water. A fine platinum wire about .0001 inch in diameter is mounted on a vertical shaft fitted with an adjusting screw so that the "Wolston wire" as it is called, may be gradually lowered into the acid solution. The detector is connected into the receiving circuit in the manner indicated in the diagram. It will be noted that a local potential is employed in the same way that crystal detectors are used with a battery. The battery is shunted by a potentiometer having a resistance of about 400 ohms which allows very little current to flow continuously from the 4 to 6 volt battery usually employed.

When in use the electrolytic detector acts in a manner somewhat similar to that of a valve. The local battery causes polarization of the fine wire electrode, that is, hydrogen bubbles completely cover the portion of the wire resting in the solution so that the electrode is insulated from the solution and current from the battery is cut off. Incoming signals, however, break down the film of insulating gas and allow one-half of the wave to pass through, thereby causing the device to serve as a detector of radio frequency current.

In practice great care must be exercised in handling the fine platinum wire which is used in this type of detector. Usually the platinum wire which is from .0002 to .0001 inch in diameter is encased in a coating of silver which gives more body to the wire so that it may be more easily handled when mounting in the adjusting shaft. The acid eats away the silver coating, leaving only the platinum wire in contact with the nitric acid solution.

It is essential in connecting this type of detector in circuit to have the platinum wire connected to the positive terminal of the battery. When the device is correctly connected and the potentiometer adjusted until the set is ready to receive signals a hissing sound is noticeable in the telephone receivers.

In order that the platinum wire may be very gradually inserted into the nitric acid solution a very fine thread is cut in the vertical shaft in which the wire is mounted so that this adjustment may be made very carefully. In the more carefully built electrolytic detectors the vertical shaft itself does not rotate, but has a keyway cut in it so that a projection of the supporting bridge keeps the shaft from turning at the same time leaving the vertical shaft free to slide up and down. A large knurled nut is threaded on to the shaft between the two shaft bearings so that turning the nut slides the shaft up or down.

One of the disadvantages of the electrolytic detector is that it "burns out" on very strong signals such as received from nearby transmitters. The sensitive adjustment may be restored by readjustment of the platinum wire.

The degree of sensitivity secured compares favorably with the more sensitive crystals and in many cases the electrolytic detector is superior. Considerable patience is required for the attainment of results with this type of detector.

Special Sale —or— China

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

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

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

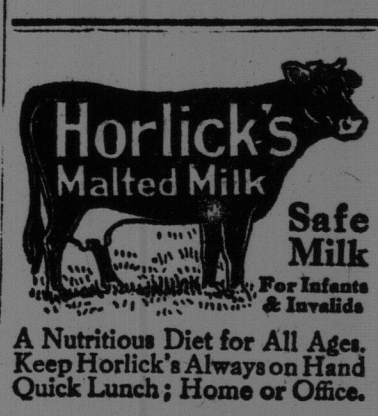
RECENT DEATHS

N. S. Springer.
The sudden death of N. S. Springer at his residence, 209 Douglas avenue, yesterday afternoon, was a great shock to his family and his many friends. He had not been feeling well recently, but had been about the city attending to his business this week almost as usual. He left his place of business in Mill street at one o'clock, went home and ate his dinner. A little later he laid down and appeared to be feeling ill. In a few minutes he passed away.

The late Mr. Springer had been in business in this city for twenty-five or thirty years. He was well and favorably known, and highly respected by all who knew him.

The late Mr. Springer was a son of

the late Rev. G. S. Springer, of Upper Jernsey, Queens county. He is survived by his wife and his daughter,



A Nutritious Diet for All Ages.
Keep Horlick's Always on Hand
Quick Lunch; Home or Office.

Charles H. Wallace.
Charles H. Wallace of Cloverdale, Carleton County, N. B., passed away recently. He was one of the pioneers of Cloverdale, moving there in 1890 and was the first postmaster. He is survived by his wife, seven sons, two daughters, twenty-eight grandchildren

George P. Springer, and his son, Harold N. Springer, and by his brother, George N. Springer, of this city, and his half sister, Mrs. Calvin H. Parry, of Upper Jernsey, Queens county.

The funeral will take place from 209 Douglas avenue on Sunday afternoon at two o'clock.

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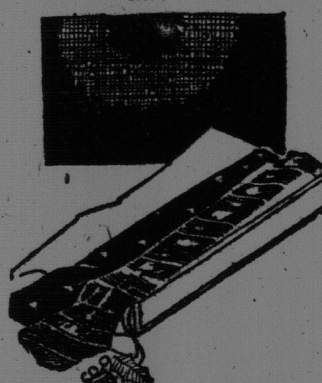
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Answering The Yearly Question What To Give a Man ?



THE HOSIERY GIFT CAN BE DISTINCTIVE

The fact that it is a sensible gift doesn't mean that it can't be a little out of the ordinary. The exceptional qualities and textures in our gift assortments enable you to select "something finer". Lisle, silk, cashmere, wool and fine mixtures are all included.



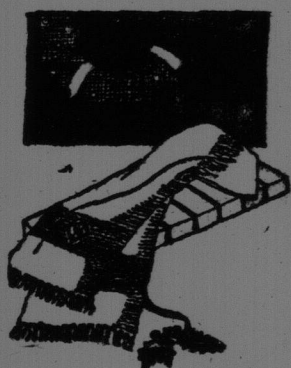
Deciding upon the item to give is only a small part of it. Almost any item of furnishings is very good—but it is the little fine points and distinct characteristics which mean everything. Men, as you know, have their preferences. We can usually tell what they are and have chosen our stocks with an eye to pleasing the most discriminating.

A SCARF IS EASY TO BUY

You don't have to worry about any size. You can get him one and be sure that he won't have to change it. He's sure to be well pleased with one of the newest ones we are showing here in knitted silk or wool.

HAS HE A NICE DRESSING GOWN?

There's a thing every man likes to own. All you need do is get the length of his sleeve and size of his coat. We'll help you select one that we are sure will please him. Smoking Jackets, Bath Robes and House Coats are also well represented in our stocks.



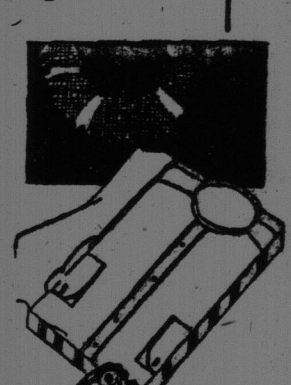
IF HIS GLOVES ARE NOT FUR LINED

That is your hint. You can give him something that is more than just a pair of gloves. A pair of these fur-lined ones will give him the necessary protection for all the cold weather we are bound to have.

Motor Gloves. Silk-Lined Gloves. Wool Gloves and many other kinds await your approval here.

Baggage, Brushes, Thermos Goods, Handkerchiefs, Umbrellas, Sweaters, Sleeping Garments, Walking Sticks, Leather Goods, Belts, Braces, etc.

All these things suggest other gift possibilities sure to meet the ideas of men of all ages.



CHOOSING NECKWEAR TO PLEASE A MAN

It isn't at all difficult here where patterns and colorings have been so carefully selected. It's all the better for you to decide upon some design that he would not choose for himself—it gives him better variety. The latest popular styles are always featured here.

NEW SHIRTS WILL BE APPRECIATED

A great many men are not keen on shopping, even for themselves; think it's a bother. So in selecting a few shirts from assortments such as we can offer you will not only be giving him extra quality, but saving him a lot of trouble. Collars to match are a feature of many of our colored shirts.

(Men's Shops, 1st and 2nd floors)

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

AMDUR'S, LTD.

RAPIDLY CLEARING STOCK IN

FIRE SALE!

Most Remarkable Bargains Remain in Many Lines for Those Who Do Not Delay Too Long

Immense throngs have day and night taken advantage of the sensational price slaughter. Amdur's express hearty appreciation of the public's co-operation in their effort to return to normal. The Amdur staffs engaged in disposing of the Fire Sale Stock, now working smoothly and patrons are assured of most prompt attention.

A FEW OF THE ASTOUNDING FIRE SALE QUOTATIONS FOLLOW:

For Women

Ladies' Coats, Ladies' Suits, Ladies' Dresses, undamaged, at 25 per cent of actual cost
Ladies' Vests 10c
Ladies' Hose 10c pair
Ladies' Fleece Lined Bloomers 25c pair
Ladies' Gaiters (so trying on) 25c pair

For Men

Leather Gloves and Mitts (\$2 value) 25c pr
Men's Wool Combinations (\$3 value) \$1.19
Men's Black, Blue and Red Label Underwear 98c
Men's Sweaters 98c
Men's Sox 10c pr
Men's Trousers 98c
Men's Caps 5c
Men's Overalls, \$2 value in black, blue and denim 98c
Men's Wool Mitts 19c pr

For Children

Boys' Sweaters 69c
Children's Hose 2 prs 25c
Children's Dresses 25c

Boys' Suits \$2.98
Boys' Overalls 39c

Table Oilcloth 25c yd

Sale Hours: 9 to 11.30 a. m.; 1 to 5 p. m.; 7 to 9.30 p. m.

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

WOMEN! DYE IT

NEW FOR 15c

Shirts Kimonos Draperies
Waistcoats Curtains Gingham
Coats Sweaters Stockings
Dresses Coverings Everything

Diamond Dyes

Buy "Diamond Dyes"—no other kind—and follow 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 run.

and one great grand child; two brothers and two sisters. Mrs. James Walker of this city is a sister.

Capt. Wm. Davidson.
Captain William Davidson of the C. P. S. liner Scotian died recently in England. He formerly commanded the Corsican and frequently made trips to this port. He was fifty-two years of age and was with the C. P. since 1896. Many friends here will regret to learn of his death.

Minard's Liniment For Distemper.

LOCAL NEWS

French Ivory hair brushes from \$3.00 to \$11—At Watson's 2 Stores.

French Ivory combs, 50c to \$2.00—At Watson's 2 Stores.

Unger's Laundry Ltd. have installed up-to-date stationary tubs, and wash and iron all silks, fine linens and all delicate articles entirely by hand. Give us a trial. Phone Main 93. 12-4

Free for another week. Large photo worth \$5 with every dozen cabinets. Lugin Studio, 38 Charlotte street. 5117-12-5

Grand Bay Outing Association dance, Studio, Thursday, Dec. 7. Only limited number of tickets will be sold. 5101-12-4

In 2 Bakers' local Times, Friday, re-applies, etc., "cost prices" should read "cut prices."

Mrs. J. G. Armstrong, 128 St. James street, annual Christmas sale of art work. 5185-12-4

Sale of women's and children's vest, drawers, bloomers, combinations, half price. Manson's, Charlotte street, Market Building. 5187-12-4

FRENCH ANGORA BONNETS
Hand-made baby boys' Angora caps with ear-tabs, white washable fur pockets; children's valour coats, flannel lined, special \$3.98, regular \$5 value. Manson's, Charlotte street, Market Building. 5186-12-4

SEE THEM TONIGHT
The Christmas show room at the London House has thousands of new gift things. Special purchases, on display tonight. You'll be surprised at the moderate prices. All sorts of ladies' stationery, boudoir novelties, bridge novelties, novelties for house, bridge favors, hand painted china, colonial glass, etc., etc. Come tonight. Open until 10 p. m. F. W. Daniel & Co.

"Studio" tonight. Mrs. Putnam's orchestra.

HIGH SCHOOL ALUMNAE
The Reading Club of the High School Alumnae will meet Thursday evening, Dec. 7, at 47 Hazen street.

LOCAL NEWS

The African Methodist Episcopal Conference of the Maritime Provinces was held yesterday in St. Phillip's church. Among the speakers were Rev. C. A. Stewart, of Halifax, presiding elder of the district; Rev. Mr. Kennedy, of Halifax; Rev. C. M. Morgan, of Halifax; Rev. C. S. England, of

Shelbourne, Rev. Claude Stewart, of St. John; A. F. Skinner, of Amherst, and J. N. Berkeley, of St. John. The conference favored an exhibition of Negro productions with the object of fostering and developing the art talents of the colored people. Several other matters of importance were discussed.

A still alarm was sent to the hook and ladder station, King street east, for a slight fire in the home of James Laidlaw, 184 Elliott Row, last evening. There was little damage done and the blaze was extinguished by the chemical engine.

The Red Cross pageant was presented in Sussex on Thursday and was an unqualified success. Miss Ethel Hazen Jarvis returned to the city yesterday after assisting in the production and spoke highly of the success of the pageant. The Opera House was loaned for the occasion by Mr. Lutz and the pageant was directed by Mrs. W. C.

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