

POOR DOCUMENT M C 2 0 3 5

THE EVENING TIMES AND STAR, ST. JOHN, N. B., THURSDAY, DECEMBER 28, 1922

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FIFTEEN MINUTES OF RADIO EACH DAY

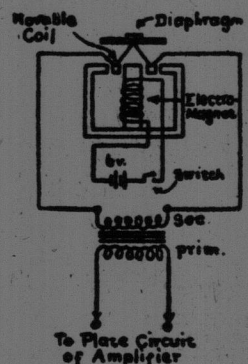
By Edward N. Davis
Formerly Technical Electrical Expert For U. S. Government

Lesson No. 192.
THE LOUD SPEAKER.

So long as only a few listeners wish to hear the signals picked up on a radio receiving set it is usually sufficient to connect in series several pairs of telephone receivers. When it is desired to entertain a large audience and to fill a room with music or sound from a broadcasting station a special form of so-called loud speaking telephone is employed. Such devices are useful only when used in connection with vacuum tube amplifiers since the current received in a crystal circuit is too feeble to move the armature of the loud speaker.

Most loud speakers are essentially current operated devices and must necessarily have more rugged windings than are ordinarily employed in telephone receivers. The armature is arranged so that it may move freely in response to the varying magnetic field, while ordinary telephone diaphragms will vibrate the magnets when subjected to the fairly strong signals from an amplifier.

Usually a loud speaker is employed in connection with a two-step audio-frequency amplifier. The plate circuit of the last amplifier tube is connected to the primary winding of a step down transformer which constitutes part of the loud speaker. Since it is the current and not the voltage which causes the loud speaker to function, the windings are made fairly low resistance. This applies to both the windings of the step down transformer and the winding of the electromagnet which is, usually energized from a local low voltage battery.



The secondary of the transformer is connected to the terminals of a small moving coil armature which is connected to a diaphragm so that movement of the coil will cause the diaphragm to vibrate in accordance with the variations in strength of the magnetic field in which the movable coil is located. Reference to the accompanying diagram will show how the connections are made in one type of loud speaker.

When a loud speaker is to be employed, it is customary to put as much voltage on the plates of the amplifiers as the tubes will stand, as much as 100 to 200 volts being the usual value used.

Some types of loud speakers are used in connection with a special power amplifier which is designed to give a maximum output with a minimum of distortion to the signals.

Many so-called loud speakers consist merely of horns to which the ordinary telephone receiver is connected, the device serving only as an instrument to round out the sounds and throw them out in a particular direction. Obviously such devices will not function on a receiving set where the signal in the telephone cannot be heard several feet from the phone. In other words it is necessary to have the volume of sound available before it can be employed to fill a room. A device of this type will not operate on a crystal receiver unless several stages of tube amplification are employed in connection with the loud speaker.

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SUCCESSORS IN LIMITING COAL
EXPORTATION TO CANADA

A Washington despatch says that Congressman Rogers of Lowell has succeeded in limiting the exportation of anthracite to Canada. It developed that as a result of his activities, anthracite shipments to Canada will be reduced to approximately 200,000 tons hereafter. Canada will be given all the bituminous coal it can use.

Be sure you can't and nobly will contradict you—Forbes Magazine (N. Y.)

MASON MORE THAN
HALF A CENTURY
Sir James Bruton Provincial Grand Master.

London, Dec. 4.—(By Mail).—Sir James Bruton, who has been appointed Provincial Grand Master for Gloucestershire, in succession to the late Sir Richard V. Vassar-Smith, Bt., is now in his seventy-fifth year, and has been a Freemason for upwards of fifty years. He was initiated in the Royal Gloucestershire Lodge, No. 859, Gloucester, in 1871, of which Lodge he had thrice been Master. He was appointed Provincial Senior Grand Warden of Gloucestershire in 1884, and since 1895 has been Provincial Grand Treasurer. In 1902 he was appointed P. A. G. D. C. of England, and in 1915 the Duke of Connaught promoted him to the rank of Past Grand Deacon (Senior), conferring upon him at the same time the rank of Past Grand Principal Sovereign in the Supreme Grand Chapter. In 1920 he was appointed Past Grand Master Overseer in the Grand Mark Lodge.



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TEST MENTAL STATUS OF NEW HAMPSHIRE FOLKS

Manchester, N. H., Dec. 28.—A survey of mental hygiene in all communities of New Hampshire will be started by representatives of the Russell Sage Foundation next month, according to an announcement made by officials prominent in bringing psychologists here for the test. The survey will be conducted through schools and boards of health. The examination is the first that has ever been made to determine the mental status of New Hampshire residents. It will be carried on by a staff of three or more experts, aided by Miss Kate B. Lee, executive secretary of the Nashua chapter of the Red Cross, Dr. E. O. Crossman of Manchester and Dr. W. B. Baker, superintendent of the state school for feeble-minded at Laconia.

WIFE ILL, HE SEEKS DEATH

New York, Dec. 28.—Sounds of merriment reached the ears of Manuel Ramo, 27, a cigarmaker of 225 West Sixty-third street, as he sat in his apartment, and from his window he saw through other windows his neighbors exchanging Christmas greetings. Ramo couldn't enter into the spirit of the day. In another room his wife lay ill. Work had been scarce and the family purse was low. Ramo, depressed, swallowed three grains of bichloride of mercury, according to the police. When a friend called he found Ramo sitting in a stupor and summoned Patrolman Walter Klein. "Christmas was not merry for me," Ramo is said to

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2 lbs Icing Sugar 20c

24 lb Bag Star Flour 95c

1 lb Cluster Raisins only 29c

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5 lbs for \$1.00

Finest Shelled Almonds, lb. 45c

Best Shelled Walnuts, lb. 49c

3 lb Pail Lard 55c

5 lb Pail Pure Lard 89c

20 lb Pail Pure Lard \$3.55

20 lb Pail Shortening \$2.90

Corn, per Tin 11c

Tomatoes, per Tin 12c

5 lbs Oatmeal 25c

4 lbs Farina 25c

3 lbs S. plitPeas 25c

6 Rolls Toilet Paper 25c

4 lbs Rice 25c

6 lbs Granulated Cornmeal 25c

3 pkgs Cornflakes 25c

6 lb Bag Graham Flour 30c

10 lb Bag Granulated Cornmeal 40c

Seeded Raisins, pkg 12c

2 pkgs Sun-Maid Seedless Raisins 25c

2 15-oz pkg Seedless Raisins 33c

2 pkg Dates 29c

2 1/2 oz. bottle Pure Lemon 23c

2 1/2 oz. bottle Pure Vanilla 23c

2 2-oz. bottles Compound Extract 19c

1 lb Pure Cream Tartar, lb. 30c

1 lb Black Pepper 23c

1 lb Allspice 23c

Finest White Potatoes, half-barrel bag \$1.00

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have told the policeman, and then he fell unconscious. He was taken to Bellevue Hospital, where he was reported to be in a serious condition.

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98 lb bag Robin Hood or Regal \$3.95

20 lb Pail Pure Lard for \$3.45

10 lbs Best Onions for 25c

1/2 bbl bag Choice White Potatoes \$1.00

1 lb Pkg Fancy Sun-Maid Cluster Raisins for 25c

Mixed Nuts, best quality, without peanuts 17c lb.

6 lb Tin of Crisco for \$1.45

2 Tins Corn 22c

2 Tins Tomatoes (small) 22c

2 Tins Tomatoes (large) 25c

1/2 tin Fry's Cocoa 22c

2 Tins Egg Powder 25c

7 Cakes Castile Soap 25c

2 Tins Old Dutch 25c

Lux 10c pkg

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"I saw an advertisement for Cuticura Soap and Ointment and sent for a free sample. I bought more, and after using two cakes of Soap and one box of Ointment I was healed." (Signed) Mrs. David Benz, 4159 Fox St., Denver, Colo.

Rely on Cuticura Soap, Ointment and Talcum to cure your skin. Sample each free by mail. Address: "Cuticura Dept.", 544 St. Paul St., W. Montreal. Send money orders, Cash, or check to the above address. Cuticura Soap shaves without razor.

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NEW FILBERT NUTS 18c lb

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BARLEY TOYS 25c lb

2 pkgs SEEDED RAISINS 25c

2 pkgs SEEDLESS RAISINS 25c

FANCY TABLE APPLES, 50c peck

GOOD COOKING APPLES, 25c peck

ORANGES 30c and 50c, doz.

FANCY TABLE RAISINS 25c, pkg.

2 Cans CORN 25c

2 Cans TOMATOES (large) 25c

2 Cans TOMATOES (small) 25c

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