

FIFTEEN MINUTES OF RADIO EACH DAY

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Government

Lesson No. 196.

RADIO DICTIONARY.

AUDIO-FREQUENCY AMPLIFICATION.

Audio-frequency amplification of music or speech, in the form of electrical energy, is universally used in radio-telephone reception and consists in magnifying electrical waves of an audible frequency. The original transmitted radio wave has a frequency considerably in excess of that to which the delicate mechanism of the human ear will respond. By rectification, waves of radio-frequency are converted into waves of an audible frequency and through the medium of the vacuum tube and associated apparatus the energy, in these audio-frequency waves, is amplified with resultant magnification of the music or speech.

"PURE" WAVE.

In spark transmitters, if the open and closed circuits are independently adjusted to the same wave length or frequency, close coupling of these circuits may produce waves of two frequencies in each circuit. By decreasing the coupling these two wave lengths more nearly correspond, and if the coupling is sufficiently loose, only one wave length or a "pure" wave is emitted. The "United States Radio Regulations" require that if more than one wave length is transmitted, the energy in no one of the lesser waves shall exceed 10 per cent. of that in the greater.

"BOOSTER" BATTERY.

A local battery used with some types of crystals for the purpose of operating the crystal on the proper portion of the characteristic curve in order to obtain the most efficient rectification and consequently the most satisfactory reception of radio signals. The voltage of this battery is from four to six volts and is so adjusted that rectification takes place at the sharp bend of the current-voltage curve, so that the resultant current is practically uni-directional. Carbonium is typical of a class of crystals which necessitates the use of "boosters" or external battery for proper operation.

RESONANCE FREQUENCY.

In a circuit containing inductance and capacity, the frequency at which the inductance reactance and the capacitive reactance are equal so that they neutralise each other, is called the "resonance frequency" and the circuit is said to be in "resonance" or "tuned" to this particular frequency. A circuit may also be adjusted to a condition of "resonance" with a pre-determined frequency by proper regulation of the "inductive reactance," the "capacitive reactance" or both.

CENTIMETER OF INDUCTANCE.

A practical unit of inductance commonly used in radio work and having the value of one-thousandth of a microhenry (one-millionth of a henry). The extremely small value of this unit will be realised when it is understood that a "henry" is the inductance in a circuit in which an electromotive force of one volt is induced when the current varies at the rate of one ampere per second.

NICKEL-IRON CELL.

A type of storage cell having positive elements consisting of tubes filled with nickel oxide and negative elements or plates having rectangular pockets filled with finely divided iron. The positive and negative elements are fastened in an airtight welded steel receptacle and submerged in a dilute solution of potassium hydrate, containing a small percentage of lithium hydrate. On open circuit the potential is approximately 1.5 volts, and when discharging at a normal rate the potential is about 1.2 volts and the cell is considered discharged when the potential has fallen to 0.9 volts.

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DEPEW'S SERMON ON LAUGHTER

Goes to Thousands by Radio
—Venerable Orator's New
Year Message.

(New York Tribune.)
Having delivered speeches galore in the good, old-fashioned way, Chauncey M. Depew varied his custom last night and sent New Year's greetings and a little sermon on laughter by radio.
The venerable orator, introduced as the only one in recorded history who had continued an active career in public speaking to the age of nearly eighty-nine, showed no signs of taking up the new vehicle for his chortle oratory. His speech was heard by 5,000 radio fans gathered at the Radio Show in Grand Central Palace and by thousands more throughout the country who "listened in" on Station WEAF, through which it was broadcast.
"As a guide I have made the following rules, which have carried me in mental and physical health to within three months of eighty-nine years of age," said Mr. Depew.
"We pass this way but once. We

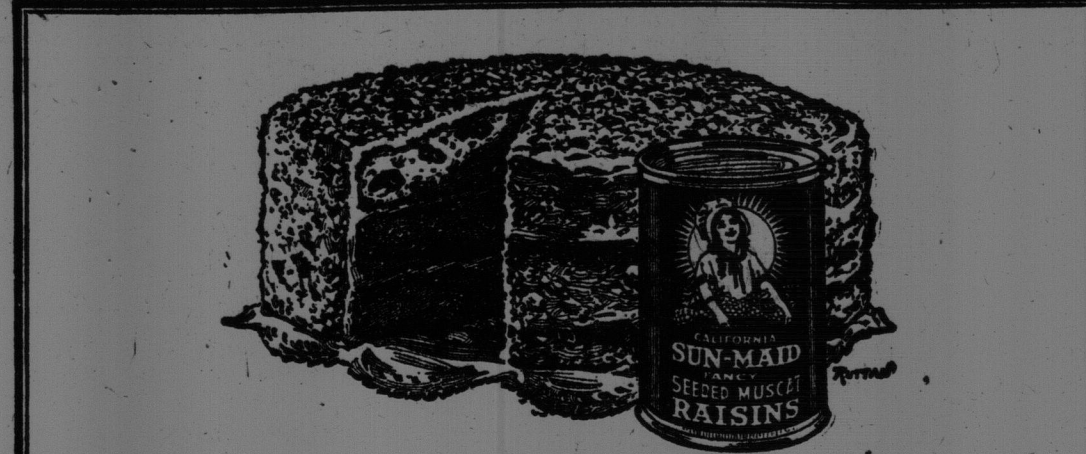
cannot retrace our steps to any preceding milestone. Every time the clock strikes it is both the announcement of the hour upon which we are entering and the knell of the one which is gone. Each night memory balances the books, and we know before we sleep whether the result is in the right or on the wrong side of the account.

"The older we grow the more we realise that life is worth the living. We think too little of the fun there is in it. We are too parsimonious of laughter. We do not appreciate as we ought the man or the woman who can make us forget while we are amused. We cannot help the past, and that man is a fool who lives in it. Today is a better day than yesterday.

"The secrets of happiness and longevity, in my judgment, are to cherish and cultivate cheerful, hopeful and buoyant spirits. If you haven't them create them. Enjoy things as they are. The regretful person I ever saw was a Turkish peasant standing in the field, clothed in bits of old carpet. He was laughing heartily at our well-dressed party. The combination of color and humor made him a thing of beauty, if not a joy forever.
"Let us never lose our faith in human nature, no matter how often we are deceived. Do not let deceptions destroy confidence in the real, honest goodness, generosity, humanity, and friendship that exist in the world. They are overwhelmingly in the majority."
The other speaker of the evening was Howard Kilkoff, chairman of the Northern Pacific Railroad Company, who spoke on the railroad as an "engine for civilization."

SPAIN GUARDS CHURCH ART.

Madrid, Jan. 3.—The sale of artistic treasures from the Spanish churches is prohibited in a royal decree, drafted by the Minister of Justice. After consultation with the church authorities, Count Romanones has decided to make such sales misdemeanors, punishable with fines applicable to both buyers and sellers.
Agitation for the issuance of such a decree has been in progress for some time, attention having been centred on the question last July, when it was reported that certain twelfth century mural paintings were to be removed from the Church of San Baudelio at Soria for transfer to New York, having been purchased, it was said, on behalf of a prominent American art collector.



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KEEP OUT OF TROUBLE

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SCOTTISH CLAN FOUNDER DEAD

James MacCash Succumbs in
St. Louis, where He Formed
Society in 1878.

St. Louis, Jan. 3.—The funeral of James MacCash, 88 years old, founder of the Order of Scottish Clans, took place Sunday afternoon. His death, it was said, was caused by a complication of ailments, super-induced by age. He is survived by two sons and three daughters.
The Order of Scottish Clans, the largest organization in the United

States having as members men of Scottish birth and descent, was organized in St. Louis, Nov. 30, 1878. Clansman MacCash was born in Springburn, Glasgow, Scotland, Aug. 16, 1884. He came to New York in 1868, going to St. Louis four years later.

Every Member Spoked.
Royal Transit Walter Scott of New York sent the following telegram to the MacCash family on learning of the death of the founder head of the organization: "Even at his advanced age, I know that every member of the Scottish clans will be shocked at the news of the founder of our great order is now but a sweet memory. The consolation that your family and self have is that he left a mighty monument to his name

which will last for all time, for the name of James MacCash and of the Order of Scottish Clans will ever be synonymous. While thousands will mourn, they will at the same time give thanks that your father lived because he had benefited the sons and daughters of old Scotia and their posterity a few have had the privilege of doing. The order has lost its father and friend, and personally, I feel I have lost a dear friend. My sympathy to you and yours who were privileged to be with him and make the autumn of his life so pleasant."

Enough seed to set out 50,000,000 trees was gathered by the U. S. forestry service in the summer of 1921.

NEW RECORD FOR SHORTHAND

Neale Behnn Transcribed
850 Words in a Minute
With Only Two Errors.

New York, Jan. 3.—Nathan Behnn, stenographer of Part IX. in the Supreme Court in this county, broke a world's record, his own, in the New York State shorthand speed contest held in connection with the annual convention of the New York State Shorthand Reporters' Association. The record was announced at the closing session of the convention.

Behnn transcribed 850 words a minute in the sprint contest with but only two errors. Neale Ransome of the District Court in New Jersey made six errors at the same speed. Behnn and John Daley of General Session were tied with 825 words a minute, each having three errors.

Behnn's record was made in a contest in which a judge's address to the jury was read at the rate of 250 words and then 80 words a minute. He made but three errors in five minutes at the 250-word rate and seven at the 800-word rate. His former record, made at a national contest, was five minutes' transcription at the rate of 277 words a minute, with three errors.

Prohibition Inspectors Henderson and Barton on Saturday raided a house in Minto occupied by Gof Vandermere and located a quantity of beer, said to be overstrength, and also a bottle containing, it is alleged, home brewed liquor. A court case will follow.



STAND ASIDE!
—AND LET MIKE PASS
DON'T HALT HIM ON HIS WAY
HE HAS THE DOUGH
TO BUY THE GOODS
AND FRIDAY
IS THE DAY!

ANY COLOR MAKES BULL JUST AS MAD AS RED

"When you wave a red flag before a bull it isn't the color that makes him angry." So declared Professor George M. Stratton of the University of California before the American Psychological Association in Cambridge, Mass., last week. Experiments had shown, he said, that the real causes were general strangeness of the object, its

brightness and its movement.
"More attention," he said, "was paid to white than to red; about as much attention went to green as to red; a sudden flutter of any color is mildly startling. It is probable that the popular belief arises from the fact that cattle, and particularly bulls, have attacked persons displaying red, when the cause of the attack lay in the behavior of the person, in his strangeness or in other factors apart from the color itself."

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MUTT AND JEFF—MUTT TRIES TO IMPRESS A WALL STREET MAN AND FAILS

By "BUD" FISHER

