RADIO EXPLAINED

By E. H. Lewis
Instructor New York Y.M.C.A. Radio School

DAMPING AND DECREMENT.

"Damping" of oscillations and their "decrement" when damped are terms commonly used in radio work. They may sound rather formidable to some, but they are very easily understood. For example, the familiar pendulum when drawn to one side from its position of rest and then released swings to and fro for a time and comes to rest. The force applied to start the swings is of course the forcible displacement of the pendulum when drawn to one side. As the pendulum swings, it meets the resistance due to the friction between itself and the air. During each swing this resistance uses up some of the energy and the pendulum swings grow smaller and smaller in amplitude until they finally cease. This decrease of amplitude of each succeeding swing is due to the damping effect of the frictional resistance. And the relation of the height of one swing to the preceding swing in the same direction would be a measure of this damping. The ratio would be found to be fairly constant with any given pendulum. Therefore this ratio may be called the "decreasement" or, technically speaking, the "decrement" of the pendulum swings or oscillations.

An alternating current, regardless of its frequency, swings back and forth through an electrical circuit and increases and decreases in strength periodically in each direction of flow. It can be compared to the pendulum swings. The maximum current value attained in each direction of flow can be compared with the height of the pendulum swings in each direction. If the maximum values of current in opposite directions decrease, the alternating current or oscillations are damped. Their decrement depends upon the resistance to current flow present in the circuit. Usually this decrement (the measure of the damping) is a constant. That is, the ratio of one current amplitude to the preceding one in the same direction of current flow will be the same as all the other ratios. The current then ceases to flow after a time unless an electrical pressure is again applied. Such an alternating current (or oscillations which are only high frequency alternating current) is said to be damped. Undamped oscillations would have no decrement; that is, their decrement would be zero.

© Herald-Sun Feature.

TEN-TON LENS IS NOW READY

(By Associated Press)

VANCOUVER, B. C., Apr. 25.—A ten-ton speculum for the Frye observatory of Seattle has been cast here by T. S. H. Shearman, astronomer. This is said to be the largest telescope glass in the world. Charles H. Frye, millionaire packer of Seattle, let the contract to Shearman last year, when no other casting plant would undertake the job. Mr. Shearman claims to have perfected a special annealing process which will enable him to cast a glass any size.

The sands used in the manufacture of this speculum came from five different countries. With this glass the new Frye telescope will have a 10-foot speculum and a focal length of 50 feet. The estimated value of the speculum is $360,000.

MUD TAX BIG SAYS SPEAKER

(By Associated Press)

PHOENIX, Ariz., Apr. 25.—Taxpayers of the United States have made up their minds to eliminate the "mud tax," which is estimated to be costing the citizens $504,000,000 annually, T. L. Kirkpatrick of North Carolina declared in an address here today before the tenth annual convention of the United States Good Roads association.

"We have sufficient funds," said the speaker, "to build a great modern system of inter-state and national highways traversing the entire nation from New York to San Francisco and from Maine to Miami, Florida, besides two seaboard highways along the entire coast of the Atlantic and Pacific. Then our natural, agricultural and manufactured resources could easily be distributed to all parts of the world.

"We have had enough talk about the fundamental principles of government. What we need in this hour is a practical application of the rules of government to the needs of the governed. The way to proceed, is to proceed. The way to do things is to do them. 'Impossibility lies in the book of fools.'"

He declared that the question of building modern highways has become the biggest question financially and economically in the minds of the American people today. "The time has come when the American farmer is demanding, and has a right to demand," Mr. Kirkpatrick added. "The world is just awakening to the advantages of modern transportation facilities in lowering the cost of distribution. Modern highways lead upward to possibilities of national life. Bad highways form the other road downward to ruin."

Presentation of an annual report outlining the work of the Good Roads association was another feature of the second day's session of the convention. J. A. Rountree, director general of the association, submitted a report.

United States Senator Charles D. Townsend of Michigan, is scheduled to address the meeting this afternoon.

Highest price paid for clean, large sized cotton rags.

READ THE WANT ADS!

BOY DROWNED AT MONUMENT

BAKER, Apr. 25—Sunday morning Arthur Geinger, age 11 years, of Monument, Ore., was drowned in Cottonwood creek, a short distance above Monument.

The accident occurred by an old bridge giving way, allowing the boy, who was riding horseback, to fall into the swift stream. The body has not been recovered at the latest report, although search is being made.

COWS AN ISSUE.

CANYON CITY, Apr. 24—A special election will be held in West Lina tomorrow to decide whether cows will be permitted to run at large in town. A large number of residents are the owners of livestock.

REVIVAL NOTED IN BUILDING

Construction Activity Marked in all Parts of the Country, Reports Show.

A revival in building in all parts of the country is reported from various sources. Dun's Review, in summing up the conditions in the building industry has the following to say:

In view of the far-reaching influence of developments in the building industry on general business throughout the country, the special survey of the construction situation just made through correspondence of Dun's Review is especially interesting and timely. Reports from nearly forty centers in widely separated sections of the United States demonstrate that the revival of building activities, of which there has been multiplying evidence during recent months, is steadily gathering momentum, and that the future is regarded with optimism.

Practically without exception, the dispatches show that a protracted period of deferred undertakings has been followed by resumption of work on an important and enlarging scale, with accompanying expansion of demand for construction materials, and favorable prospects for further improvement in these lines. The reduced costs of labor and materials and the pronounced shortage of housing accommodations, both in the cities and suburban towns had clearly foreshadowed a renewal of building operations of magnitude, and advices from some points indicate a record year. In not a few cases, permits for new construction this spring have reached the highest mark in several years, in number as well as in value, and in certain instances all previous totals have been surpassed. With an aggregate of more than $218,680,000, the March permits are fully 110 per cent above those of the corresponding month of 1921.

An outstanding feature of the present situation is the centering of activities mainly on the erection of dwelling houses, under the stimulus of the urgent and widespread demand for accommodations of this character. While some important industrial construction is in progress or contemplated, the volume of such work is comparatively moderate in most sections, current undertakings being confined chiefly to the building of small homes and apartments, and to re-modeling operations. Public improvement now under way or in prospect, however, involve considerable expenditures, both in the larger centers of population and in the smaller cities. On the whole, speculative projects are of small proportions.

It is clearly evidenced by reports from all sections of the country that the easier conditions in money markets have proved a stimulating factor in the building industry. A conservative policy in granting loans is still adhered to in virtually all instances, but less difficulty is being experienced in securing financial accommodation to be applied to construction activities, and rates of interest are somewhat lower, as a rule. In certain sections, second-mortgage money is more readily obtainable. Many of the operations are being financed through trust companies and building and loan associations, with rates ranging from 6 to 8 per cent.

The labor situation has immeasurably improved, reports of a scarcity of workers now being conspicuous exception, and there being a surplus in most quarters. Wages, especially for unskilled labor, are comparatively lower, and no airtime of importance impede progress at present.

Many different trades are being favorably affected as the course o-

tivity in the building industry, and the revival in this line wil have a constructive influence on general business throughout the countr.

NAVIGATES IN A RUDE BOAT

LEWISTON, Ida., Apr. 25.—Capt. Henry Guleke arrived in Lewiston Friday, after having navigated, in a rude flat boat, through more than 300 miles of canyons, waterfalls and rapids in Salmon and Snake rivers, between Salmon City and Lewiston. He carried on the boat four tons of general freight and eight passengers. The party left Salmon City April 10.

Captain Guleke reported that on Monday, in the space of a few hours, he saw 362 deer and several mountain sheep and goats. Big game was seen all along the river, and one deer sighted had a bell on its neck, according to one of the passengers.

Character Shown by Blue Eye.

A blue eye shows the person to be of a meek and gentle temper, affabl and good-natured, credulous though not capable of violent attachments, ever modest, cool and undisturbed by turbulent passions, endowed with a strong memory, in constitution neither robust nor delicate, subject to no violent impressions from the vicissitudes of life, whether good or bad. Equanimity is the ruling characteristic.

April 23rd and April 29th

We are featuring the following nourishing and healthful breads and cakes for Raisin Week:

SUN MAID RAISIN BREAD—filled with luscious Sun Maid raisins and spices, per loaf 15c
SUN MAID RAISIN PIES—very delicious and juicy, each 25c and 35c
SUN MAID BOSTON BROWN BREAD—each 15c
SUN MAID RAISIN COOKIES—dozen 20c

Macpherson's Bakery

PREST-O-PLATES
Mean Plenty of "Pep"

They are the backbone of Prest-O-Lite Batteries. Better than ordinary plates, they make Prest-O-Lite Batteries better than ordinary batteries.

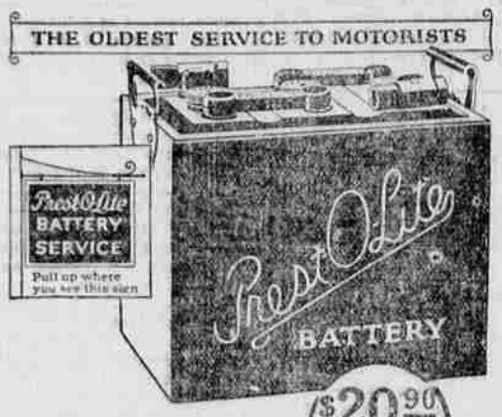
Prest-O-Plates combine a *peculiar porosity* with an unusual *hardness*, which explains their *quick delivery* of power in *cold* weather, and great, heat-resisting, *non-buckling* strength in *summer*. We have Prest-O-Lite Batteries as low as $20.90 (trade in price) for popular makes of light cars, and other types at correspondingly low prices.

These are not special models, but regular Prest-O-Lite Batteries, backed by the regular Prest-O-Lite guaranty: a definite, generous obligation, plus a spirit that says the car owner must be pleased. Prest-O-Lite Batteries are specified by 87 leading manufacturers, and this list is growing.

How is your battery working? Is its pulse low? Come around and consult our specialists. We prolong the life of all batteries, and we never tell you that you need a new battery until you do. Drive around, and get our friendly expert advice.

ROESCH MOTOR CO.
Successors to Hilton's Garage

THE OLDEST SERVICE TO MOTORISTS



[Headquarters for Prest-O-Lite's special battery for radio purposes]

$20.90 and up Trade in price

ARCADE
Starting Thursday
"Hail the Woman"
10—Stars—10

Exide Batteries

Batteries in stock.
Batteries for Rent.
Batteries Recharged
Batteries Watered Free.
Batteries of all makes Repaired.
Stromberg Carburetor Service.

B. & T.
BATTERY STATION
Fred Burgess, Prop.
In Leighton's Machine Works

Taste is a matter of tobacco quality

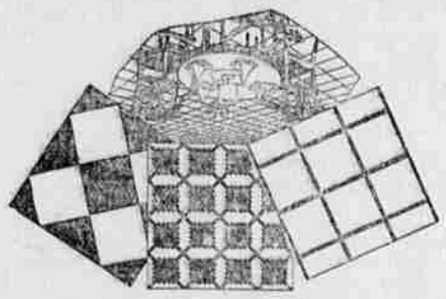
We state it as our honest belief that the tobaccos used in Chesterfield are of finer quality (and hence of better taste) than in any other cigarette at the price.

Liggett & Myers Tobacco Co.

Chesterfield
CIGARETTES
of Turkish and Domestic tobaccos—blended
"They Satisfy"

Lower Prices
20 now 18c
10 now 9c
(Two 10's—18c)

Armstrong's Linoleum
for Every Floor (A) in the House



WE HAVE IT!
Select Your Now
W. H. BOHNENKAMP CO.
4 Floors of Fine Furniture

Proof PRODUCTS

PATTON'S 17th Century WAX

—a general purpose polishing wax for the home.

It imparts a high, brilliant, lasting gloss to floors, woodwork, furniture and linoleum. Spreads easily and dries sufficiently within a half-hour to permit polishing. Saves housework because floors and furniture can be kept clean by dusting instead of washing. Have a can on hand always.

Everything needed for any kind of Varnishing Job

Oregon Hardware and Implement Co.

FIRST TIME SINCE THE WAR

WESTERN UNION TELEGRAM

PORTLAND, OREGON, APRIL 20, 1922

ROESCH MOTOR CO.,
LA GRANDE, OREGON.

FUTURE CAR, TRUCK AND TRACTOR SHIPMENTS ARE TO BE MADE AGAINST BONIFIED ORDERS ONLY. WIRE IMMEDIATELY NUMBER OF ORDERS BY TYPES YOU NOW HAVE ON FILE.

FORD MOTOR CO.

The Best Coffee
CHASE & SANBORN'S SEAL BRAND

We are exclusive agents for Chase & Sanborn's Famous Teas and Coffees.
Watch for our Ad in Friday's Paper
It Will Pay You

J. G. Snodgrass
109 Depot St. Two Phones, Call Main 75
—NO CHARGE FOR DELIVERY—