

Sturdy Wear

After you have worn Stanfield's Underwear for an entire winter and find it just as good as the day you bought it, you begin to appreciate the sterling quality, the masterly workmanship and the sturdy wear of this most famous of Canadian-made Underwear.

STANFIELD'S Unshrinkable UNDERWEAR

Made in Canada. One-piece suits, in full length, knee and elbow length and sleeveless for men and women. Stanfield's Adjustable Combinations and Sleepers for growing children (pat.)

For sample book, showing weights and textures, write STANFIELD'S, LIMITED, TRURO, N.S.

It wears longer

Wireless for Beginners

BY ANTHONY PYKE

(Registered in Accordance with the Copyright Act.)

ARTICLE III

Frequency and Wavelength.

However rapidly electricity may travel, actually at the speed of light. (Three hundred million metres per second) some time is required for a current to make the journey along the wire from A to B and back to A. However short the wire may be. What the human senses regard as "instantaneous" is not so in reality. We know well enough that the camera shutter occupies a certain time in making a so-called instantaneous snap, because we can adjust the shutter to give exposures of various fractions of a second. And so in considering the passage of an electric current along a conductor we must not call it instantaneous merely because our senses cannot associate such sudden movement with time. If A B is ten feet long, then the current will take a certain time to make its journey, and if the length of A B is increased to twenty feet, then the current will take longer, though not necessarily twice as long, for reasons which need

call length of the circuit, so if we wish to increase the natural period, we may do so by adding wire. Now, the frequency of an oscillating current is the number of complete oscillations which occur per second. Obviously the longer the wire, the longer the natural period and the lower the frequency because the current oscillations occupy more time and there are consequently fewer per second. Now, let us suppose that an oscillation is occurring in A B. As the current flows from A to B, the ether is strained in one direction, which direction is reversed when the current flows back to A. Each complete oscillation, then, strains the ether first one way and then the other. Two such strains produce one wave in the ether, the complete wave having a hump and a hollow, like an S on its side. The wavelength is the length of an imaginary straight line joining the two extreme ends, or if a number of waves follow each other in a group or train, the wavelength is the length of an imaginary straight line joining two successive humps or two successive hollows. We shall consider wave groups in a future article, confining our attention for the present to a single wave.

From the beginning of its formation, the wave radiates from the conductor in all directions and at the speed of light. Here again, we must not forget that, infinitesimal as it is, a certain time elapses between the commencement and conclusion of the wave's formation, and that a certain distance is travelled by the "head" of the wave before the "tail" is completed. Since one wave is produced by one complete oscillation of current in the conductor, we can see that the length of the wave, i. e. the distance between its head and tail, will be increased if the time required to produce the oscillation is increased. It has already been shown that the natural period of oscillation may be extended by lengthening the conductor, so, speaking broadly, we may say that the length of the ether wave is increased by other things which have actually to be considered, of course, but this article should help us to understand why amateur stations, which transmit short waves (up to 200 metres) employ shorter aerials than the commercial stations, which transmit longer waves (sometimes exceeding 20,000 metres).

Surrounding and, indeed, penetrating the conductor A B, is the ether. We might imagine this ether to be punched, first in one direction by the rapid flight of current from A to B, and then in the opposite direction by the return of the current to A. As a body of water is set rippling when punched with a stick, so we may suppose the ether to be set rippling when punched with electric currents.

not be dealt with here. Speaking generally, then, the time of one oscillation of current (A to B and back to A) in a circuit increases with the electric

Buffalo for England.

A pair of buffalo from the great Canadian herd in Buffalo Park, Wainwright, Alberta, will be shipped to England early this fall for the purpose of introducing new blood into the herd in the Zoological Gardens at Regent's Park. The shipment will probably go east late this month and will be accompanied by an attendant who will place the animals on board ship.

The only herd of buffalo of any size in England is that owned by the Duke of Bedford at Woburn Park, containing about sixty animals. Buffalo were first introduced into the Old Country in 1891 when ten full grown animals were shipped by Colonel C. J. Jones, familiarly known as "Buffalo Jones," from his own herd at McCook, Nebraska, to C. J. Leland.

Some of these afterwards came into the possession of the Duke of Bedford and were added to by purchases from Col. Goodnight and Carl Hagenback.

The shipment of buffalo from the Canadian herd at Wainwright this fall will be the second of its kind to Great Britain. Late in 1913, at the instance of the late Lord Strathcona, a donation of two three-year-old bison was made to the Royal Zoological Society of Ireland by the placed in the Dublin Gardens where they have now increased to five. Loans of buffalo to the Zoological collections in various Canadian cities under a bond guaranteeing adequate provision for the health and maintenance of the animals have also been made from time to time.

A GENTLE LAXATIVE FOR THE CHILDREN

Mothers—the surest way of keeping your little ones well and happy; whether it is the new-born babe or the growing child is to keep their bowels regular and their stomach sweet. Nineteen-tenths of all childhood ailments are the result of clogged bowels and sour stomach. The most necessary and the best medicine for little ones is a gentle laxative—something that will relieve constipation; soothe the stomach and promote rest and natural sleep. Such a medicine is Baby's Own Tablets. They are a gentle but guaranteed free from opiates or other injurious drugs and may be given to the youngest infant with perfect safety. They banish constipation and indigestion; break up colds and simple fevers and give the baby that health and happiness which all children should have. They are sold by medicine dealers or by mail at 25 cents a box from The Dr. Williams' Medicine Co., Brockville, Ont.

RUN DOWN PEOPLE WEAK AND NERVOUS

Thousands in This Condition Can Easily Help Themselves.

There are thousands of people who bear the pain and discomfort of minor ills in the hope that the indisposition is only temporary and will be outgrown in time. Often such illnesses are not serious enough to require the attention of a doctor, but will respond to intelligent home treatment if a reliable remedy is used. Women, busy with a multitude of household cares, young women in offices or stores, or girls studying hard in school, easily fall a prey to that condition of bloodlessness known as anaemia. The trouble need not be serious if prompt measures are taken to check it in its early stages. Dr. Williams' Pink Pills will restore the elements needed to bring the blood back to strength, and once the blood regains its healthy quality the entire body will soon show the benefit. Among the many who have found benefit through the use of Dr. Williams' Pink Pills is Mrs. Albert W. Smith, Missouche, P.E.I., who says: "I was very much broken down in health, had pains in the region of my heart, and was by short of breath. If I went upstairs I reached the top. Then a strange nervous twitching of the muscles took possession of me, and every muscle in my body would apparently be twitching. I became very anæmic, and my family were much alarmed as to my condition. At this time I read an article in our home paper concerning Dr. Williams' Pink Pills and decided to give them a trial. The result was that in a short time I felt much improved, and under further use of the pills I felt like a new woman, had gained in weight and was in every way better. I would urge anyone afflicted as I was to give Dr. Williams' Pink Pills a trial."

You can get these pills through any medicine dealer at 50¢ per box, or six boxes for \$2.50, from The Dr. Williams' Medicine Co., Brockville, Ont.

HEALTH EDUCATION

BY DR. J. J. MIDDLETON
Provincial Board of Health, Ontario

Dr. Middleton will be glad to answer questions on Public Health matters through this column. Address him at Spadina House, Spadina, Toronto.

We hear and read a lot these days about the necessity of passing regulations in Canada with respect to oleomargarine, so that it may be definitely distinguished from butter. The average person may wonder why there should be any anxiety about this distinction, but back of it is a very important point that must be known. This is the nutrition that the oleomargarine contains, and how it differs from that which butter contains. Supposing I ask anyone what butter is; the answer would in nine cases out of ten be wrong. I mean "wrong" in the legal sense, that is, in discussing in a court of law the constituents of butter.

We all know that butter is what results when we churn milk till the fat globules coalesce and float on the surface of the milk. That, however, is not the correct way of answering the question, what is butter. Here is what butter is: It is the substance commonly known as butter, and made exclusively from milk or cream, or both, with or without salt or other preservatives, and with or without added coloring matter.

Margarine includes all substances, whether compounds or otherwise, prepared in imitation of butter, and whether mixed with butter or not.

But what is oleomargarine? It is simply margarine according to the foregoing definition, manufactured from animal fats, and vegetable oils such as cocoa-nut, cotton seed, sesame, earth nut, etc. In this it differs as you see from butter, which contains no other fat than that derived from milk or cream.

Now the question is why should there be any worry as to whether oleomargarine is labelled oleomargarine or just butter. It is for this reason: Butter contains vitamins, the essential food factors that bring about healthy growth and prevent the outbreak of disease like scurvy and rickets. The vitamins are present in the butter fat obtained from milk. In the case of oleomargarine, however, the fat may be entirely derived from vegetable oils which contain no vitamins, the oil having been squeezed out and the silver-skin which contains the precious vitamins thrown away with the shell. The oleomargarine can thus be entirely devoid of vitamins, and hence lacking in food value.

A recent issue of the Journal of Pediatrics gives a striking illustration of the lack of vitamins in oleomargarine. For experimental purposes a number of guinea pigs and rats were given this substance with well-cooked food, no fresh milk, fruit, vegetables or other vitamin-containing ingredients being allowed. Invariably these animals died, although other and similar animals fed on exactly the same diet except that butter was substituted for the oleomargarine, lived and thrived.

There is justification therefore, for those who urge the passage of strict regulations with respect to oleomargarine, so that this product should have a standard color other than the color of butter, and that the container of each package of oleomargarine should be labelled such, in order that it may not be confused with butter.

From the standpoint of nutrition in so far as vitamins are concerned, oleomargarine should not be presented in such a shape, appearance or color as to attempt to deceive purchasers into the belief that they are actually getting butter or an article with the same food value as butter.

In England a summons is issued against anyone caught selling margarine without a specific label bearing the word "Margarine" on the paper covering the package. In the interest of pure food legislation this distinction should also be required by law in Canada.

The Forestry Branch of the Department of the Interior, Canada, has forest experiment stations at Petawawa, Ontario, and at Lake Edward, Quebec, where the growth of forests and the reforestation of cut-over and burned-over areas are being studied to provide data to promote the conservation of Canadian forests.

Minard's Liniment for Burns, etc.
ISSUE No 37-22.



With The BOY SCOUTS

How to Organize a Troop.

In our article last week we described the place of the "parent institution," such as a Church, School or Club, in Scouting, and outlined the functions of the Troop Committee of adult citizens appointed by the institution taking up Scout work for its boys. One of the duties of this Committee is the selection of the Scoutmaster and one or more Assistant Scoutmasters to direct the work of the Troop.

The success of the Boy Scout programme is dependent upon the Scoutmaster. His conception of the rules, spirit and purpose of Scouting and the quality of his leadership control the possibilities for practical results in the work for boys. For this reason the greatest care should be exercised by all concerned in recommending men for these appointments.

A Scoutmaster shall be at least twenty-one years of age and shall be chosen because of good moral character and his interest in work for boys. He need not be an expert in all of the Scout activities, but should be able to command the respect of the boys in the management of his troop, delegate as much of his duties as possible to assistants and Patrol Leaders and make use of different local experts available in the various activities included in the Scouting programme. He, with the Troop Committee, is responsible for the general program and supervision of the work of the Troop. All recommendations for the registration of men to serve as Scoutmasters shall originate with the Troop Committee and be submitted on blanks provided for that purpose. In communities supervised by Local Associations, the recommendation of the Troop Committee shall be approved by the Local Association.

Assistant Scoutmasters. Each Troop should have one or more Assistant Scoutmasters. Assistant Scoutmasters shall be at least eighteen years of age and may be selected and promoted because of their experience as members in a troop and efficiency in Scouting. An Assistant Scoutmaster performs such duties as may be assigned to him by the Scoutmaster. All recommendations for registration as Assistant Scoutmasters originate with the Scoutmaster and the Troop Committee and require the approval of the Local Association if there be such, having jurisdiction of the Troop for which the Scoutmaster is registered.

Training the Scoutmaster. The new Scoutmaster must secure training from some source.

1. From the Training Course of the Local Association having jurisdiction over his troop.
2. Or from self-help—reading the literature the Boy Scout Association makes available in the way of handbooks, pamphlets, "Headquarters Gazette," "The Trail," etc.
3. Or from apprenticeship as an Assistant Scoutmaster in another troop.
4. Or from personal contact and conference with experienced Scout workers.
5. Or (as many, and perhaps most men have secured it) from the teachings of his own experience.

This last should be supplemented. What the new Scoutmaster "is" is of course more vital than what he "knows." Yet the more he knows about his important and pleasant service, the greater the returns that may be expected.

(To be continued next week.)

Canadian Visitors to the National Parks.

The extent to which Canadians themselves are making use of the Canadian National Parks is shown by the registrations of the past month at Banff.

During July, 1,517 licenses were issued to cars entering the National Park. The highest previous record was in July, 1921, when 1,084 licenses were issued. The week ending July 31 broke the weekly record with 502 licenses, exceeding the previous highest week by over 100 cars. The Superintendent reports that on July 1 and 2 there were 1,556 bathes in the Government baths at the Cave and Basin Hot Sulphur Springs. The previous weekend record was 565 or less than one-half the total for this year. The total number of bathes during the week ending July 30 was 2,110. The great majority of these visitors are motorists from the Prairie Provinces, though cars have been noticed from California and the Western States and even as far east as Michigan and Ontario.

At the Yarmouth Y.M.C.A. Boys Camp, held at Tusket Falls in August, I found Minard's Liniment most beneficial for sunburn, an immediate relief for colic and toothache.

Alfred Stokes, General Sec'y.

Whole System Is Benefited By Tanlac

Thousands of frail, nervous people and convalescents everywhere have testified to the remarkable power of Tanlac in bringing back their health, strength, and working efficiency. It seems to quickly invigorate the constitution and a powerful foe of weakness. Alexander William Collins, 84, John St., N. Hamilton, Ontario, says: "My wife was in a mighty bad state of health. She could eat very little of anything, her back hurt badly and she had frequent attacks of awful sick headache. Three bottles of Tanlac have made her healthy and strong again."

There is not a single portion of the body that is not benefited by the helpful action of Tanlac. It enables the stomach to turn the food into healthy blood, bone and muscle, purifies the system and helps you back to normal weight. Get a bottle to-day at any good druggist.

Some folks make their joys mere incidents and their sorrows great events.

MONEY ORDERS. It is always safe to send a Dominion Express Money Order. Five dollars costs three cents.

It is a grander thing to be nobly remembered than to be nobly born.

Ponce de Leon might have found the fountain of youth in a milk bottle.

Recommended "Vaseline" Petroleum Jelly benefits all bumps, sores, blisters, sunburn, blisters, cuts and chafed skin. Never be without a bottle of it in the house. It's safe, always effective and costs but a trifle.



Vaseline Petroleum Jelly

PETRIE'S MACHINERY TORONTO

Training the Scoutmaster. The new Scoutmaster must secure training from some source.

What the new Scoutmaster "is" is of course more vital than what he "knows." Yet the more he knows about his important and pleasant service, the greater the returns that may be expected.

At the Yarmouth Y.M.C.A. Boys Camp, held at Tusket Falls in August, I found Minard's Liniment most beneficial for sunburn, an immediate relief for colic and toothache.

Alfred Stokes, General Sec'y.

Cuticura Talcum Is So Refreshing

A few grains of this exquisitely scented powder dusted on the skin soothes and cools, and overcomes heavy perspiration. It is an ideal face, skin, baby and dusting powder and takes the place of other perfumes for the skin.



Accept only an "unbroken package" of "Bayer Tablets of Aspirin," which contains directions and dose worked out by physicians during 22 years and proved safe by millions for

Colds, Toothache, Earache, Headache, Neuralgia, Lumbago, Rheumatism, Neuritis, Pain, Pain.

Handy "Bayer" boxes of 12 tablets—Also bottles of 24 and 100—Brought to you by the trade mark (registered in Canada) of Bayer Manufacturing Co., manufacturer of Aspirin. While it is well known that Aspirin means Bayer, the name is also used by other manufacturers. The Bayer Cross will be stamped with their general trade mark, the "Bayer Cross."

Classified Advertisements

WANTED—YOUNG LADIES WITH Good Education to Train as Nurses. Wellington Hospital, St. Catharines, Ont.

LADIES—DO YOUR OWN SEWING! STITCHING and pleating; attachments for any machine, \$2.50; buttonholes, \$1.50; duty free; agents wanted. E. STEPHENSON, 22 Quincy Street, Chicago.

NEW YORK STATE SCHOOL FOR Training Nurses at Roosevelt Hospital and Brooklyn Marine Hospital, Washington Avenue and St. John's Place, Brooklyn, N.Y., founded in 1874, delightfully located near Prospect Park will open a new training school this fall for the reception of larger classes; any young woman desiring to enter a professional training in nursing should apply for a thorough training; individual attention by trained instructors; changeover; attention to health and recreation; October classes now forming. Write to Director of Nursing.

AGENTS WANTED. WHOLE OR PART TIME TO SELL our complete line of electric fixtures and appliances from our exclusive Liberal Commission. W. P. Marie Electric Supply Co., 124 St. Clair Ave., Toronto.

FOR SALE. VARN—WONDERFUL VALUES AND Colors, samples free—Georgetown Woolen Mills, Ont.

WEEKLY NEWSPAPER WANTED. WE HAVE A CASH PURCHASER for a weekly newspaper in Ontario. Those who have and need to sell, full information to Wilson Publishing Co., Ltd., 75 Adelaide St. W., Toronto.

BELTING FOR SALE. THRESHING BELTS AND SUGAR BELTS. Those who have and need to sell, subject to approval at lowest prices in Canada. York Belting Co., 116 York St., Toronto, agents.

COARSE SALT LAND SALT. Bulk Carlots. TORONTO SALT WORKS. C. J. CLIFF—TORONTO.

DOG DISEASES. American's Famous Dog Remedies. Book on Mailed Free to Post. Address by the Author, Dr. W. C. Cline, 125 West 24th Street, New York, U.S.A.

GOITREN. A WONDERFUL SCIENTIFIC DISCOVERY. For Goitre and Enlargement of the Thyroid Gland. The only way to reach the seat of this disease is through the blood by taking "Goitre's Scientific Treatment." This treatment will purify the blood. (A bottle will have good effect.) Large bottle containing one month's treatment, price \$5.00. Dept. No. 5. REBEL CHEMICAL CO., 163 Church St., Toronto.

WILL ANSWER ANY WOMAN WHO WRITES. Montreal Woman Finds Health by Taking Lydia E. Pinkham's Vegetable Compound.

Montreal, Quebec—"I was a sufferer for three years, not able to do my household work. My husband was discouraged for I was no better and had had the doctor all this time and nothing helped me. I was always sleepless, had no appetite and suffered with my left side. My mother in England recommended Lydia E. Pinkham's Vegetable Compound because it had helped my sister, so I have been taking it. I am now able to do my household work and I can not praise your medicine too highly as I have great hopes for the future. I will tell anyone who writes to me what good it has done me."—Mrs. E. Masson, St. Henry, P. O., Montreal.

For nearly fifty years Lydia E. Pinkham's Vegetable Compound has been helping women just as it helped Mrs. Masson; oftentimes after doctors and other medicines failed. If you are suffering from disagreeable symptoms caused by some female weakness, try this splendid medicine. It is a woman's medicine for women's ailments and can be taken in safety by any woman.

ASPIRIN

UNLESS you see the name "Bayer" on tablets, you are not getting Aspirin at all



Accept only an "unbroken package" of "Bayer Tablets of Aspirin," which contains directions and dose worked out by physicians during 22 years and proved safe by millions for

Colds, Toothache, Earache, Headache, Neuralgia, Lumbago, Rheumatism, Neuritis, Pain, Pain.

Handy "Bayer" boxes of 12 tablets—Also bottles of 24 and 100—Brought to you by the trade mark (registered in Canada) of Bayer Manufacturing Co., manufacturer of Aspirin. While it is well known that Aspirin means Bayer, the name is also used by other manufacturers. The Bayer Cross will be stamped with their general trade mark, the "Bayer Cross."