

# WIRE IN SEABED TO CARRY THE VOICE ACROSS OCEAN

United States Army Officer Announces Revolutionary Discovery in Radio—Says Cables Will be Unnecessary—Unprotected Strand of Metal Utilized Merely for the Direction of Signals—Details Will Soon be Ready.

Washington, April 28.—An important development which may revolutionize the present system of world cable communication is to be announced here before the National Academy of Sciences soon by Major Gen. George O. Squier, chief signal officer of the United States Army.

The announcement is that bare wires, laid in the sea to replace the cable submarine cables now required, highly expensive and extremely delicate submarine cables now required, may be used for the transmission of messages, both by telephone and telegraph. The use of bare wire in this manner is said to represent an entirely new principle in the science of communication and opens a way for a tremendous development which conversation between the United States and Europe, or even China.

It is new application of what is known as "wired wireless," being the transmission of a radio current between two or more points with the wire used merely as a guide. This means of communication, in which the message is not sent through the wire but alongside of it, was developed several years ago by Gen. Squier and already has been placed in commercial use in the United States efficiently and economically. As many as forty different and distinct messages have been sent in this manner with a single wire as a guide. The advantages of "wired wireless" as in its multiplex possibilities and its secrecy, which is not possible in the ordinary use of radio, where the message is scattered to the four winds.

## Insulation is Not Necessary

Of secondary importance is the announcement that the further fact that it is possible to use the bare wire for the same purpose when buried in the earth, doing away with telegraph poles. The wire simply is placed in a furrow and covered over. The heavy insulation now required for buried wires is not necessary.

The ability to use bare wires for such communications, both in the sea and buried in the earth comes through the use of vacuum tube amplifiers. There is not grounding of the wires as ordinarily is the case. An open circuit is used. An accurate description of the highly scientific development will be contained in Gen. Squier's paper before the American Academy of Sciences tomorrow.

Gen. Squier refused tonight to discuss the development in any way in advance of the delivery of the paper. The first intimation that such an announcement would be made came through the official programme for the American Academy of Sciences, issued today, which said that Gen. Squier would read a paper entitled "Multiplex Telephony and Telegraphy Over Open Circuit Bare Wires Laid

in the Earth and Sea." This supplied the key which enabled a newspaper to obtain the information presented here with in advance of the official announcement.

That the news of the development will have great interest, commercially, and otherwise in the electrical world goes without saying. It will open up, electrical engineers believe, a wide discussion as to its adaptability to the communication systems of the world, which those who have been familiar with it say is self-evident. Its revolutionary character, however, is expected to cause a shock to those who have been engaged for years in the present system of ocean cabling.

## Of Great Commercial Value

Gen. Squier, it is understood, does not intend to present the system to the world as a complete invention. He believes that he has established a principle which lends itself to further protection, but a principle about which whose commercial importance there is no mistake.

Its value readily is apparent when it is realized that submarine cables are highly expensive and delicate. Before the war the estimated cost was more than \$2,000 a mile in place. They are of intricate construction and require heavy armor to protect them from chafing against the rocks. Even the slightest leaks put these cables out of commission until repair is possible, often after days of search. The cables at best could be used only for duplex communication, that is, for carrying two messages, one in each direction.

With an ordinary bare wire, on the other hand, the cost of the line would be very low. Such a wire probably would have to be painted or enamelled to prevent injury by sea water but that would be all. It simply would be put overboard from a ship and weighted down to place. Water, according to the statements of those who have followed the experiments, cannot injure communication in the slightest degree, and there can be no interruption to the service so long as the line remains continuous.

At present in the use of submarine cables the current employed is comparatively weak, in order to prevent any injury being done to the cable. With the aid of the bare wire, with the sending and receiving apparatus, it is said, it will be possible with only slight development to conduct a telephone conversation over a longer distance such as is impossible with the cable.

## First Results in a Month.

The experiment which have led up to the development that will be announced tomorrow began last December, it is understood, on a idea which formed itself in the mind of Gen. Squier as a direct result of a navy

## UP A SINGIN'!

Tomorrow will be clear and bright, if you take "Cascarets" tonight

Peeling half-sick, bilious, constipated? Ambition way below zero? Here is help! Take Cascarets tonight for your liver and bowels. You'll wake up clear, rosy, and full of life. Cascarets act without gripping or inconvenience. They never sicken you like Calomel, cost so little too—Cascarets work while Salts, Oil or nasty, harsh pills. They you sleep.

invention which permitted the transmission of radio messages between submarines. Having developed "wired wireless" for the guidance of a radio message along a wire when properly insulated above the ground, he reasoned that it might be possible, to guide an under water radio message by a wire under water. With that as a start he called in Lieut-Col. J. O. Mauborgne, in charge of the engineering division of the Signal Corps, who assisted with the experiments in the field. Inside of a month they obtained the first results.

The chief experiments—those which furnished the most practical demonstration—were between Forts Hunt and Washington, on opposite sides of the Potomac River and part of the defenses of the city of Washington. The forts are approximately 3,000 yards apart.

An ordinary copper wire was placed in the Potomac River, running to a pier on either side. At first the experiments were conducted with the ends grounded, as is the custom for both radio and ordinary wire communication, but there were no results. Finally the ground connection was removed and the apparatus was capable of operation. The exact reason for the fact that a ground is unnecessary is not yet fully explained.

## POISONED BY GAS WHILE IN A WELL.

FRANK CARLSON FOUND RELIEF IN DODD'S KIDNEY PILLS.

Saskatchewan Man Who Suffered All Summer, Claims That His New Lease of Health is Due to Dodd's Kidney Pills.

Livingston, Sask., April 30. (Special)—Most enthusiastic about the benefit he has received from using Dodd's Kidney Pills is Mr. Frank Carlson, a well-known and highly respected resident of this place.

"I was gassed in a well on my farm 25 feet deep," Mr. Carlson says. "I was nearly dead. I was treated for a whole summer for my trouble, but did not get better.

"Then I read in a little almanac about Dodd's Kidney Pills. I had no idea they might benefit me, but was willing to try anything. To my surprise the improvement in my general health was so great, and my kidneys were so much better, that I feel like advising everybody to use Dodd's Kidney Pills. I would not be without them."

Dodd's Kidney Pills are a kidney remedy. They strengthen the kidneys and enable them to do their full work of straining the impurities out of the blood.

Ask your neighbors if Dodd's Kidney Pills are not the sovereign remedy for sick kidneys.

## DRESS SUITS COME TOO HIGH

(Montreal Star.)

It is feared that with dress-suits being quoted at a hundred and twenty-five or over, the brilliant idea of making Georges Carpentier's fistic reception in this city, a replica of the manner in which he was received in good old London, will have to go by the board. Even the rental price is said to have more than quadrupled.

## ROYALTY ATTENDS FANY DRESS BALL

London, April 28.—One of the boys with the British army of occupation on the Rhine has sent home the proceeds of a "Bradbury" (one pound note) as an illustration of the difference in exchange.

The exhibit consists of a leather case containing three pairs of first class scissors, a snakeskin jewel case for travelling, a real badger hair shaving brush of most portentous size and several oddments.

Taking the value of the Treasury note at \$5 the yield represented a value according to English prices of at least \$35.

## AMBER IS SCARCE AND EXPENSIVE

(New York Sun)

If any one can dig up a lot of amber in the United States or find a lot somewhere else and bring it here, he can make a pile of money. There's practically no amber in the market. None, or very little of it, has come here since the war began. And as the principal source of supply, the Baltic regions, is still tossing coins with the Bolsheviks it is not likely that any amber will come from there for a long time.

Before the war amber sold here as high as \$30 a pound, and more for especially choice specimens. Now it commands almost any price that the holder chooses to ask, up to \$80 a pound, or even higher. These figures are for "rock" amber. The pressed amber is much cheaper.

Of course we could live a long time without any amber. It is not one of the necessities of life. But for some purposes such as the manufacture of cigar and cigarette holders and pipe bits, no perfect substitute for amber has ever been found. It is used also in the making of some kinds of varnish and for beads, other personal adornments and vases.

## Amber 100,000 Years Old

Amber is a fossilized resin—that is a resin that exuded from trees 100,000 to 200,000 years ago, and was turned hard in the course of many centuries. Sometimes before the resin hardened, it caught bees and flies and other insects or bits of wood or feathers and preserved them for the curious of succeeding ages.

Amber is found also in other parts of Europe America and Australasia. The greatest amber producing district is Samland, a square shaped piece of territory in what was formerly East Prussia, but has now gone—or will go eventually to Poland. The district lies between Koenigsberg and Memel. Amber is found there partly cast up by the sea, and it is obtained also in part by means of nets. Much of it is mined like a mineral but mostly in small chunks. Some of the beds lie on the bottom of the ocean, and divers have been employed to get the amber out.

## Easily Fused and Worked

Amber comes in round, irregularly shaped lumps. Its color ranges from a pale yellow to a reddish brown. It is sometimes transparent and sometimes opaque. When it is heated gradually in an oil bath it becomes soft and flexible and may be worked easily. Two pieces may be united by smearing the surface with linseed oil and then pressing them together while hot. Cloudy amber may be clarified by boiling it in oil, as the oil fills the numerous pores to which the turbid appearance of the amber is due. Formerly the small bits of amber cast off in making objects were wasted or ground up for use in varnish, but now they are pressed together into "ambroid" or "pressed amber."

## YOUTHFUL PAIR PARTED

New York, April 29.—Justice Leander B. Faber handed down a decree in the Supreme Court in Long Island City yesterday, annulling the marriage of John O'Toole, 15 years old, to Miss Helen Shea, 17 years old, of Corona, L. I. The couple were married by Recorder A. A. Carster whom they told they were 21 years old, in Hoboken, N. J., on November 25 last. Lawrence O'Toole, father of the boy, heard of the marriage, and turned his son over to the Children's Society. John was released under a promise he would not see his wife again. He is now attending the College of St. Francis Xavier. Miss Shea is a telephone operator.

Man's life is full of struggles! First he struggles against soap, then against discipline, then against an education, then against matrimony, then against baldness, and finally against death—but they all get him, sooner or later!

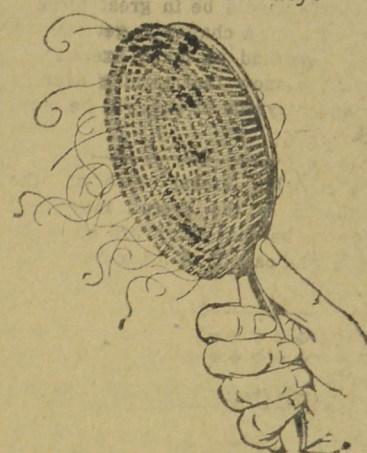
Anybody who isn't getting Post Toasties

is missing something good.

—says Bobby

## "DANDERINE"

Stops Hair Coming Out; Doubles Its Beauty.



A few cents buys "Danderine." After an application of "Danderine" you can not find a fallen hair or any dandruff, besides every hair shows new life, vigor, brightness, more color and thickness.

## MAKING TOIL A PLEASURE

(Detroit Journal.)

An industrial captain is quoted as saying, "There is no fun in business any more. I used to go to my desk with pleasure. I go now with dread, knowing that most of the business which will be put before me will worry and depress me."

To alter an old proverb, all things come to the man who lives long enough. For a generation or so, the fun has been going out of the work of the average wage-earner. He has been set at machines which were supposed to supply much of the brains necessary for the job. He has punched time clocks and been classified by number. Often for months at a stretch he has punched out metal washers and nothing else, turned up a bolt in one part of a contrivance and no more, seldom seen a piece of work through from beginning to end. This work has become monotonous, uninteresting. Further aggravation has been supplied by men who stood over workers with stop watches, figured out short cuts, that however useful might be unnatural for the individual worker. So the fun in work has oozed away, and the industrial captain has largely had a hand in it.

The remedy for the condition is not in the scrapping of machinery and the restoration of handicraft. Machinery will stay. But working with it can be made more enjoyable. The man who hates to labor endlessly at drilling holes in boiler plate all day long often goes home to tinker until midnight at a rebellious motor car. He does not care how time passes then. He is not praying then for a whistle of a jangling gong. It should be the task of enlightened industrialism to give to men in the shops the same zest for work they have when they are "on their own."

Our industrial captain has lived long enough for something of the experience of the wage-earner to come around to himself. We hope he will live so much longer that both he and his hired hand will know together at one and the same time, the greatest possibilities for fun now latent in all work.

## ABRAHAMS GREAT SPRINTER

London, April 29.—Recent developments in athletics show that the man from whom competitors must expect the stoutest opposition in the Olympic sprints is H. M. Abrahams of Cambridge University. He is the best sprinter seen in England in a generation. Abrahams is a sound, "even time" man for the 100 yards, with a strong probability that he will show a couple of yards better on good going. At the recent Oxford-Cambridge meet he won in 10 seconds, although he was slow off his mark, and when it is considered that the track was a new one and that the day was cold and drizzly, it can be best calculated the class to which the youngster belongs.

Earlier in the spring Abrahams did ten seconds and into the bargain defeated A. W. Hill, the national sprint champion. The Light Blue sprinter is tall and awkward, but he drives forward with a long, low stride which gets him over the ground with a wonderful rush. He is a splendid broad jumper and under favorable conditions can approach twenty-four feet.

Happy the man who doesn't worry over wasted money more than forty-eight hours.

There may be a pot of gold at the end of the rainbow, but there are only half a dozen rainbows during a whole summer.

## NEWS AGENTS IN CITY.

THE DAILY MAIL IS ON SALE in the City of Fredericton at the places of business of the following:

D. LENIHAN, 522 King St.  
D. H. CROWLEY, 612 Queen St.  
ALONZO STAPLES, 100 York St.  
MISS QUINN, 147 Westmorland St.  
E. A. EARDLEY, 704 King St.

## NOTICE

BOARD OF HEALTH

"Citizens will please take notice they are required to clean up their premises, yards and cellars at once," to the Health Inspector will start on his tour of inspection on or about Saturday, 8th May, 1920. Owners, whose premises are found in an unsanitary condition, will be dealt with as the law directs. The public city dump is located on the river bank, corner of Northumberland and Queen streets.

G. R. PERKINS, City Clerk.

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We can print you 500 Maple Honey Labels for \$1.50 or 1000 for \$2.25, with your name and address on them.  
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The Great English Remedy. Tones and invigorates the whole nervous system, restores new blood in old veins. Cures Nervous Debility, Mental and Brain Worry, Leadeness, Loss of Energy, Helplessness of the Heart, Failing Memory. Price 21 per box, six for \$1. Sold by all druggists or mail, 1st. plain box on receipt of price. New pamphlet mailed free. THE WOOD MEDICINE CO., TORONTO, CAN. (Grand, N.B.)

## BUILDING LOTS

FOR SALE

2 lots on Waterloo Row facing River 65 by 200 each.

OLTS & THOMAS, Real Estate Agents,

532 Queen street Phone, 639.

## NOTICE TO CONTRACTORS.

SEALED TENDERS marked "Tender for Gravel" will be received by the undersigned up to noon of the 7th day of May, 1920, for 4,000 cubic yards of gravel to be delivered as follows: 2,000 cubic yards at or near Young's Cove Wharf; 2,000 cubic yards on the shore of Cumberland Bay, at or near the forks of the road that leads to Young's Cove. The quality of the gravel must be subject to the approval of the Provincial Road Engineer. Place of landing must also be subject to the approval of the Provincial Road Engineer, and the gravel to be delivered not later than June 15, 1920.

The Department reserves the right to increase the quantity to be delivered. Each tender must be accompanied by a certified cheque for \$500, payable to the Honorable Provincial Secretary-Treasurer, which cheque will be forfeited in case the tenderer fails to complete his obligation.

The Department does not bind itself to accept the lowest or any tender.

P. J. VENIOT, Minister of Public Works, Department of Public Works, Fredericton, N. B., April 26, 1920.

## TENDERS FOR COAL

TENDERS will be received at the office of the City Clerk, City Hall, up until 12 o'clock noon the 8th day of May, 1920, for the supply of coal (screened and run of mine) for the following departments:

1300 tons more or less for the pumping station.  
800 tons more or less for the Electric Light Station.  
200 tons more or less for the City Hall.

Tenders to be for coal f.o.b. cars and delivered in bins at the different places mentioned.

The lowest or any tender not necessarily accepted. Coal to be delivered as required.

J. S. SCOTT, For City Clerk.

## TENDERS FOR RESIDENCE

TENDERS will be received at the office of McLellan & Hughes, Fredericton, up to and including May 10th, for the large and valuable property of the late Timothy Lynch, situated on Regent Street, Fredericton, in the central part of the city.

The house is large and commodious, fitted with modern improvements, and is in first class condition. There are three barns, ice house and other out-buildings, about 4 acres of land. No tender necessarily accepted.

Plan of property may be seen at the office of

McLELLAN & HUGHES, Solicitors, Fredericton, April 26, 1920.

## CASTORIA

For Infants and Children In Use For Over 30 Years

Always bears the Signature of

W. D. Galt

New Strength for YOU!



HALL'S WINE brings new strength to brain and body, strength to counteract the wearing strain of modern business life.

Men and women run down from overwork, anxiety or illness, need the tonic qualities of Hall's Wine. It renews strength and vitality, and restores depleted energy. Thousands of brain-workers and hand-workers have proved this.

Hall's Wine is prepared from a prescription of a member of the Royal College of Surgeons, London, England.

**Hall's Wine**

The Supreme Tonic Restorative

GUARANTEE—Buy a bottle of Hall's Wine today. If, after taking half of it, you feel no real benefit, return to us the half-empty bottle and we will refund your entire outlay.

Extra large size bottle \$2.25

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