

**Frederick H. Peters**  
BARRISTER-AT-LAW  
Representing  
THE MUTUAL LIFE  
INSURANCE COMPANY  
OF NEW YORK  
Offices: York Street, over Royal Stores  
Phone 947.

**DR. G. R. LISTER**  
Dentist  
BURCHILL-WILKINSON BLDG.  
Queen Street, below Regent  
Phone 844.

**CLOTHES CLEANED**  
PRESSED and REPAIRED  
For Ladies and Gentlemen  
**William E. Seery**  
GEORGE STREET

**J. A. McADAM**  
Undertaker  
REGENT STREET  
Best and Most Modern Funeral  
Equipment in the City.  
Residence Telephone, 1047.  
Business Telephone, 118-41.

**HANSON & DOUGHERTY**  
R. B. HANSON, K. C.  
C. L. DOUGHERTY, B. A.

**Barristers, Solicitors, etc**  
CARLETON CHAMBERS  
51 CARLETON ST. FREDERICTON

**DR. J. B. CROCKER**  
Dentist

FREDERICTON, N. B.  
Office: CAMPBELL BUILDING  
Phone 504. 476 QUEEN ST.  
Over H. S. Campbell's Shoe Store

**W. J. IRVINE, L.D.S., D.D.S.**  
POST GRADUATE  
CHICAGO COLLEGE of  
DENTAL SURGERY

OFFICE:—  
Corner YORK and KING STS.  
PHONE 398.

**MRS. MARY D. COLBY**  
Public Stenographer  
333 CHARLOTTE STREET  
Work Done Neatly and Promptly.  
TELEPHONE NO. 981-41.

## THE ALLIES TO QUIT GERMAN ARMS RULE ON MARCH 1ST.

Paris, Dec. 9.—All Inter-Allied military control will be withdrawn from Germany before March 1. This definite assurance will be given Foreign Minister Stresemann of Germany when the Council of the League of Nations meets at Geneva this week.

This is the result of an agreement reached here by representatives of Great Britain, France, Belgium, Poland and possibly Italy, considering that German disarmament is now sufficiently achieved to warrant turning over to the League the supervision of Germany's military establishment.

Further pre-Council conferences were held here today by Foreign Minister Briand, of France; Foreign Secretary Sir Austen Chamberlain, of Great Britain, and Foreign Minister Vandervelde, of Belgium, who also exchanged opinions with Foreign Minister Zaleski, of Poland, and Baron Avezana, the Italian Ambassador. A consensus was revealed on all the major phases of the proposed step of evacuating the Rhineland after eight years' occupation. The fact that Sir Austen and Briand and Vandervelde are in complete accord on the withdrawal proposal virtually assures the authorization of such action at Geneva.

Although the work of the technicians under Marshal Foch will not be finished for a month or two, the spokesmen of these five European nations regard the work as advanced sufficient to set the actual date when it is felt that all vestiges of interallied military control will be removed and supplanted only by an investigating committee under the league, for which the Versailles treaty provided.

Seeks Policy on China.

A second important development today was indicated when M. Vandervelde, following a conference with M. Briand, told the press that it was very urgent that the powers hold a conference regarding China in order to fix a common attitude toward both the Peking and Canton governments. The Belgian Foreign Minister let it be known that his country regards recent developments in China as a serious menace to the many nations having interests there, especially Belgium, since the Peking government had broken its treaties with that nation.

M. Briand counselled M. Vandervelde that the powers should be very

prudent with China because the real strength of the Canton movement is not yet known. It is indicated, nevertheless, that much sentiment exists to bring the Chinese situation before the deliberations of the council or to recommend a separate conference to determine a policy toward China.

## SEARCH FOR WRITER WAS UNSUCCESSFUL

London, Dec. 11.—More than 500 police, aided by aeroplanes flying overhead, continued to search today for the missing novelist, Mrs. Christie. They thoroughly combed the downs for a radius of two miles from the spot where her abandoned car was found, using motor tractors to break down thickets.

Mrs. Christie's husband, Col. Christie, joined the search and brought along his wife's favorite terrier. The dog was given one of his mistress's gloves found in the deserted car to put him on the scent. He whined pitifully and went about with his nose to the ground, with the Colonel and the police Superintendent following eagerly, but after three hours the search had to be abandoned without avail.

## FRAUD CHARGES WITHDRAWN

Winnipeg, Dec. 11.—Charges of fraud against Lieut.-Col. F. G. H. Pousette, Gerald B. Aldous, D. W. J. Simpson and George Edwards, in connection with the supply of coal to the Department of Militia, were withdrawn today by A. C. Campbell, counsel for the Government.

Information against the men was laid back in March, 1925, the charges being based upon a report made by David Campbell, K. C., who headed a Royal Commission appointed to investigate alleged irregularities in Government coal contracts.

G. W. Higgins of Minto is a guest at the Windsor.

## MEASURES THE OCEAN DEPTHS BY THE LATEST INVENTION; A SONIC DEPTH-FINDING INVENTION

(Frederic J. Haskin in Boston Traveler.)

Washington.—While there remains some uncertainty as to just how many enemy submarines were actually located by under-water listening machines during the world war, the development of these instruments in the anti-submarine campaigns has certainly resulted in a much improved sonic depth-finding device which has been used since the war.

Whole sections of the ocean bed have been charted, cables have been laid, and icebergs have been traced through the instrumentality of the devices which the war helped develop. Thus the stimulus given to invention by the terrors of the U-boats has had a lasting benefit.

Very Successful.

The United States navy department makes no secret of the success it has achieved in developing under-water listening for peace-time uses. Whether it has also perfected a perfect submarine detector is not known. Presumably the progress in peaceful invention has its parallel in perfecting defensive equipment for war.

The sonic depth finder as developed since the war by the navy bids fair to displace completely the old system of soundings by weight and line. A vessel equipped with the new inventions can determine the depth of water under it as it goes along, without slackening speed, and while for some time this process worked effectively only at depths in excess of nine fathoms, it is now useful at depths of that many feet. Some 34,000 square miles of bottom of the Pacific ocean between San Francisco and San Diego have been charted by two destroyers, steaming at the rate of 12 knots an hour, while they made soundings by sound waves. This work would have required several years if carried out by the weight and line method of measuring depths.

The sonic depth-finder, and similar devices for locating icebergs or submarines, are founded on the knowledge that sound travels through sea water at a fixed rate, and that by timing a sound wave from one point to another the distance can be determined. Thus a sound started from a ship goes to the ocean bottom and echoes back to the ship. By measuring the time elapsing, the depth of water under the ship is determined. In the same way a sound wave echo from an iceberg serves to locate the berg.

With submarines or other sounds coming directly from objects distant from the receiving point, there is a basis for judging direction, but not for measuring distance, as the time of the sound wave's travel is unknown. If, however, after locating a submarine, for example, an echo can be got from it, the time can be measured and the distance calculated.

Simple Principle.

This principle of timing sound waves is simple, but the machinery to make it effective is not and it took years of work to complete the discoveries and devices necessary to make it practical. As early as 1903 experiments were made from lightships by using submarine bells to transmit sounds, and microphones in tanks against a ship's side to receive them. These experiments worked fairly well for a few miles. In 1914 Dr. R. A. Fessenden perfected the Fessenden oscillator, which sends out high pitched sound waves from the steel hull of a vessel by electric vibrations. These waves proved far more effective than those from bells, and from them the first echoes were noted, indicating that the sound waves went to the bottom and were sent bounding back.

Meanwhile, in 1911, navy experiments with the cruiser Washington, off the Nantucket shoals lightship, had determined the rate at which sound waves travel through sea water. This was done by releasing radio signals and submarine bell signals at the same instant from the lightship, and noting the time of arrival of each on the Washington's receiving devices. The cruiser made a series of tests at an exactly known distance from the lightship, until the rate of transmission of the sound waves was determined, and then steamed to sea and made other tests at various distances.

From this series of experiments the rate of sound travel through sea water was determined as being 4800 feet per second, a fact which formed a basis for a vast amount of subsequent experimentation.

No Sure Method.

When the world war began, the navy had some knowledge of under-water sound detection, but no method of determining the direction from which sound waves came. The war experiments produced a submarine sound receiver capable of doing just that, namely, of determining the

bearings of the source of a submarine sound. It was this discovery which, after the war, was first applied for the taking of depth soundings. These were taken by getting the record of the echo from the propeller of a ship recorded on a receiving device at the bow of a vessel. The angle at which the echo came from the sea bottom, taken together with the length of the vessel, gave the necessary data for triangulation to determine the water depth.

This angle method of depth finding by sound waves is still in use, but another method by timing the sound waves has been substituted to a great extent because the angle method required great skill and care by the operator, and has a large margin of possible error. The timing method was not of much use with the ordinary stop-watch catching tenths of seconds, because a sound wave going 4800 feet per second covers 480 feet in a tenth of a second. Hence on error of one-tenth second with a stop-watch might mean 240 feet error in depth of water for a wave going to the bottom and back. Soundings with an accuracy only inside 240 feet, or 80 fathoms, would not serve very well to keep the ship off the reefs. Hence a timing device capable of registering to one four-hundredth of a second by electrical mechanism was devised. Measuring a submarine sound wave with this device gives accuracy within 12 feet, or within six feet of depth for the sound trip of a sound wave to the bottom and back. Here was a device for depth taking that was sufficiently accurate for all purposes except very close figuring in shallow waters.

Two Sounding Methods.

Thus the navy and other government departments have available two sounding methods developed since the war, and there have been put to work for various purposes. The government's Alaska cable, which for years had given trouble by breaking, was laid over very uneven bottoms, broken with submerged mountain ranges. A depth sounding survey which the navy made in record time gave a complete chart of the sea bottom from Puget sound to the Alaska harbors, and the latter laying of the cable avoided the danger points.

The navy has made soundings entirely around the world by the sonic method, has covered the route from Boston to Seattle via the Panama canal, and chartered the earthquake area of California to discover whether the sea bottom rose or fell from quakes. The navy and coast guard are using submarine signals for the detection of icebergs along the shipping lanes of the North Atlantic, and it is now a very rare thing for a berg to slip into the danger zone undiscovered.

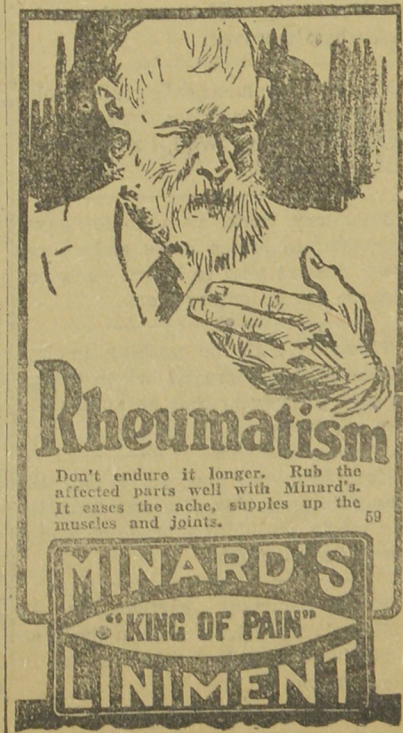
The navy disseminates information about its useful discoveries for the use of shipping generally, but does not discuss the application of these inventions to the arts of war. Presumably the work of the past few years in familiarizing experts with what exists in the under water, all has its bearing on the submarine question. Perhaps a complete scientific program of detecting submarines will accomplish what the naval diarming treaties could not agree upon, namely the abolishment of the submarine as a weapon.

He—Do you think you could grow to love me?

She—I'm afraid not; you see, I've done growing.

Insurance Examiner—You say you never had an accident. How about the time you were bitten by a dog?

Applicant—That wasn't an accident. The dog did it on purpose.



**Rheumatism**  
Don't endure it longer. Rub the affected parts well with Minard's. It cures the ache, soothes the muscles and joints.

**MINARD'S**  
"KING OF PAIN"  
LINIMENT

## FIRE ALARM LOCATION IN THE CITY

- 6 Argyle and York Sts.
- 7 Victoria Hospital.
- 8 Children's Aid Home.
- 12 Westmorland and Aberdeen Sts.
- 13 Northumberland and Saunders Sts.
- 14 Brunswick and Smythe Sts.
- 15 Charlotte and Smythe Sts.
- 16 George and Northumberland Sts.
- 17 King and Northumberland Sts.
- 21 Queen and York Sts.
- 23 York and George Sts.
- 24 Queen and Westmorland Sts.
- 25 Brunswick and Westmorland Sts.
- 26 Charlotte and Westmorland Sts.
- 27 King and York Sts.
- 28 Saunders and York Sts.
- 31 Queen and Regent Sts.
- 32 Needham and Regent Sts.
- 34 Queen and Carleton Sts.
- 35 Brunswick and Carleton Sts.
- 36 Charlotte and Carleton Sts.
- 37 George and Regent Sts.
- 38 King and Regent Sts.
- 43 St. John and Aberdeen Sts.
- 44 Queen and St. John Sts.
- 45 Brunswick and St. John Sts.
- 46 Charlotte and St. John Sts.
- 51 King and Church Sts.
- 52 George and Church Sts.
- 53 Union and Church Sts.
- 54 Shore St. and University Ave.
- 55 Brunswick St. and University Ave.
- 56 Lansdowne St. and Waterloo Row.
- 57 Grey St. and University Ave.
- 112 Smythe and Aberdeen Sts.
- 113 Argyle and Northumberland Sts.

## FLOWERS

We have every kind either Cut Flowers or Potted Plants.

CUT FLOWERS

Roses, Carnations, Violets, Tulips, Daffodils and many others.

SAY IT WITH FLOWERS

**Ada M. Schleyer**

326 CHARLOTTE STREET

Phone 217



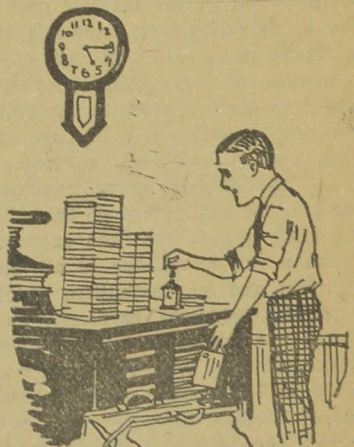
As Beau Brummell would say  
A Very Merry Christmas

THE same sincerity that has always characterized our efforts to serve, underlies this wish we hold for you—that this Yuletide season be filled with joy and happiness for you and yours!

"Tailors of Quality"

**Walker Bros.,**  
Phone 276-41. Ltd.  
TAILORS  
365 QUEEN STREET

## BLUNDERS



WHY IS THIS WRONG?

When mail is allowed to accumulate in offices until closing time, it not only places an additional burden on the postal service, but is apt to miss important early afternoon train dispatches. This often causes a whole day's delay in delivery. Mail should be posted as soon as it is ready, and at frequent periods of the day.

Wm. Droletsky of Montreal is registered at the Windsor.

# A LITTLE THING

THE power called habit is a little thing \* \* \* \*  
but it can pull your eyes open at a certain hour every morning, determine whether you dress the right or left foot first, drop a fixed amount of sugar into your breakfast coffee—free your mind for thoughts that demand actual choice.

The little habit of glancing over these advertising columns daily, checking this and that which appeal to you, frees your mind from any guesswork about the merits of a product; helps you choose wisely when you buy. If you are familiar with newspaper advertisements, you can discriminate merits, weigh one product against another, these truths against those. And the habit of buying only advertised goods takes the hazard out of shopping; puts in a good, sturdy sure.

Start a Friendly Little Habit That Will Pay.

Read the Advertisements in These

Columns today.