

## SAFETY ON RAILWAYS



Statistics show that travelling on a railway is nowadays less hazardous than walking on the street—the percentage of fatalities steadily decreasing in spite of an increasing volume of traffic at higher speeds. In congested areas tracks have been doubled and quadrupled; steel bridges and embankments replace wooden structures; air brakes and automatic couplers have superseded hand brakes and links and pins; steam heating and electric lightings have relegated car stoves and oil lamps to the scrap pile; steel construction throughout, underframes and car bodies, steel tyred wheels with continuous fastenings are standard for all up to date passenger equipment; air signalling devices replace the old bell cord and engine cab gong; scores of other accessories, too numerous to mention, are now part and parcel of all modern rolling stock, all specially designed to reach the desired goal—"Maximum Protection to Life and Property."

The greatest and most costly improvements have undoubtedly been carried out in connection with the permanent way and signalling systems. Steel rails of constantly increasing weight have superseded light iron ones; split switches have banished the old stub switch; elaborate interlocking devices are installed at all points where railways cross at grade.

Everything tending to increased efficiency and safe operation, regardless of cost, has been done to an extent hardly appreciated by the travelling public generally.

In this great general advancement seemingly small matters have not been overlooked, special attention has been given to minor details conducive to the desired result—"Safety."

In addition to the usual "flagging" by trainmen with hand lamps and flags, the emergency signals most commonly used are the fusee and the track torpedo or fog-signal, as it is generally called across the water.

The fusee, an excellent signal

emitting for a definite period red and yellow light of great brilliancy, is especially effective on dark and stormy nights, but not equally valuable in daylight and in foggy weather, and not as popular among practical railwaymen as the Track Torpedo, which is more easily carried, promptly applied and meeting all conditions by day as well as by night.

Up to the present time the track torpedo appealed to one sense only, namely, hearing, and usually consisted of a pellet of a detonating compound, exploding with a loud report when crushed by the wheel of a locomotive or car passing over it—but not sensitive enough to be exploded by light hand-cars or section-men's lorries.

A new type of torpedo called the "Meteor" has recently been adopted by the Canadian Pacific Railway for use on its System from Atlantic to Pacific. The unreliable method of attaching the torpedo to the rail head by soft metal bands pressed into position, but frequently displaced, has been greatly improved by using a spring rail clip of tempered steel or spring brass—gripping the rail head firmly and promptly applied. Furthermore, assurance has been made trebly sure—the new torpedo appeals to three senses installed at all points where railways cross at grade.

The new torpedo is completely waterproof—it will stand any atmospheric conditions of heat, moisture and frost. It has been subjected to one hundred hours immersion and one hour in moist steam at 120 deg. fahnt, without deterioration and has been used where the temperature was many degrees below zero with complete success. Special tests have been carried out to ascertain its holding power when placed in position on the rail, and for flying particles likely to cause injury to bystanders, with completely satisfactory results.

## INGENUITY OF THE CHEQUE FORGER

The wonderful ingenuity displayed by the scientific methods of the present day cheque forger has forced the banks to bring into being a number of devices calculated to baffle the crook, says Pearson's Weekly.

In the olden days a cheque consisted of a piece of plain stamped paper, on which the name of the bank was printed. The gentlemen who specialized in altering the amount of cheques to a larger sum than they were originally drawn for lost no time in taking advantage of this simple form of cheque. Erasures could not be made by means of chemicals, which left no trace, and enabled the words and figures to be easily altered.

The banks for the time being circumvented this practice by printing the cheques on colored paper, so that any attempt to alter the amounts with an acid also removed the color from the paper.

The cheque forger then went one better by matching the color which his chemicals removed with earlier a water color or dye, before writing the larger amount.

A constant battle of wits then ensued between the banks and the crooks, and still continues. With what is known as the "protective" cheque, the banks believe that they have produced a form which makes any alteration impossible. On such a cheque (now universally used by all the largest banks) there will be a colored oblong portion upon which the necessary writing of the words and figures is made.

At first glance this tinted portion appears to be a plain band of colored printing. If, however, it is carefully examined through a magnifying glass it will be found that the colored portion is formed by a constant recurrence of the name of the bank in extremely small letters, which being so close together give the effect of a wash of color.

The ink which is used in the printing of these microscopic words will "run" should any attempt be made to alter the amounts or words by means of chemicals; even plain water will remove the pigment and cause the wording to blur.

Effective as this means of protec-

## Germans Emigrating To South America

Hamburg, Sept. 8.—Emigration to South America, and especially to Brazil and Paraguay, is assuming much larger proportions than is generally known. Only last week the steamer Pocome left here for Brazil with more than 1,000 emigrants. Most of them were skilled laborers and the others, recruited from the so-called better classes, intend devoting themselves to farming. News received from friends and relatives who have gone to South America in other cases is so optimistic that thousands of German families who have lost their regular sources of income through the war and the revolution are selling the rest of what once was their fortune to pay their fare to Brazil and Paraguay. The latter country especially offers great advantages to German immigrants granting them land and even advancing money for the purchase of cattle and to build homes. Brazil and Paraguay also are employing Germans in educational and economic Government offices.

## Saskatchewan Has 60,325 Automobiles

Regina, Sask., Sept. 8.—Figures published by the Provincial Government show that the number of automobiles owned in Saskatchewan in 1920 was 66,323, as compared with 55,000 in 1919 and 46,880 in 1918. This is a remarkable showing when it is considered that in 1908 the total number of motor vehicles of all descriptions in the province was only 74.

This rapid increase in the number of automobiles is attributed to the rapid settlement of the province and the prosperity achieved by the settlers in farm homes. In this country, where farms are often paid for by a single crop, more than half the automobiles are owned by farmers.

Saskatchewan farmers, according to the Government figures, invested \$6,000,000 in 2600 new tractors in 1920 at an average of \$3,000 per tractor. Distribution of farm tractors is becoming wider every year. A large per cent of the acreage is cultivated with tractors today. Efficiency and popularity of tractors have led some economists to prophesy horseless farming in a few years.

## Will Morning Never Come

DOES this illustration picture your experience? What is more distressing than being unable to sleep? Sleeplessness is one of the first and most certain symptoms of exhausted nerves.

This is the warning that you need the assistance of Dr. Chase's Nerve Food to restore vigor to the nerve cells and thereby avoid the development of serious nervous trouble.

By improving the quality of the blood and building up the nervous system this well-known restorative brings new energy and strength to the whole body.

50 cents a box, 6 for \$2.75, all dealers, or Edmondson, Bates & Co., Ltd., Toronto.



## Ontario's Wilderness is Sporting Paradise

**AUBREY FALLS ON THE MISSISSAUGA RIVER.**

The two hundred and seventy miles of canoeing down the Mississauga River between walls of dense forests, slipping into one exquisite lake after another and making 35 portages, is accounted the acme of outdoor pleasure by those who have been so fortunate as to have traveled this Ontario water trail.

The start is usually made from Biscotasing, 8 miles west of Sudbury, where outfits and guides can be obtained. This route passes through Bisco and Spanish Lakes, then into Spanish River where one is likely to see a dozen moose in the course of a day's journeying. Spanish and Canoe Lakes and several lakelets intervene ere Mississauga Lake, the source of Mississauga River, is reached. From here the travel is all down stream through wildly beautiful scenery.

Tall spires of pines reach heavenward above the solid wall of forest that lines either bank. Moose, deer and other wild animals often emerge from the dense woods to gaze at the passing strangers. They are seldom molested and are quite fearless and present splendid targets for the camera. Excellent fishing is at hand the whole distance—speckled trout, lake trout, bass, pike and muskies are so plentiful that one seldom casts without getting a bite. Pretty little streams come stealing through the forests to pour their silver offerings into the Mississauga and to coax the travelers to leave the big river and seek the hidden charms of the hinterland. The side trips often lead to waters over which white men have never fished.

The majority of the portages are just long enough to give you a chance to get the kinks out of your calves and are a pleasure rather than a hardship. The portage at Aubrey Gorge affords a wonderful sight, that of the river surging and swirling through a quarter-mile gorge and then marking a 107 foot leap over a cliff. It takes one and a half hours to shoot the Forty-mile Rapids, which is done with no more effort than resting in the canoe and using the paddle now and then to keep it in the channel. The portage around Mississauga Tunnel is made by team over a good road that parallels the narrow cut in the solid rock through which the river churms its way for three miles.

The route really ends at the Canadian Camp Club House one-half hour above Powerby, from the latter it is a 45 minute motor run to the railway at Thessalon.

**A BIT OF ROUGH WATER HARD ON BOATS BUT FINE FOR FISHING. AS THIS WILL SHOW**

tion is against the more clumsy operator, banks have found to their cost that the scientific cheque crook has discovered a means of altering the amounts without showing any traces of his work.

Large business houses, on learning this, took the further precaution of perforating the amount of the cheque with machines specially designed for this purpose.

For some time this put an effective stop to alterations on cheques until once again the crook went one better. His method was carefully to fill in the holes made by the perforating machine with paper pulp, exactly matching the cheque in color. Having done this the cheque was altered to a larger amount, which was perforated by the crook himself.

There is at present on the market a "cheque writer" which so far has completely baffled any attempt at erasure. The machine is a form of typewriter which punches the amount on the cheque in both figures and writing. The type cuts into the ridges, at the same time applying an indelible dye which goes right through the paper. As this type is of a large size, it makes any alteration practically impossible.

**CASTORIA**  
For Infants and Children  
In Use For Over 30 Years  
Always bears the Signature of *Dr. J. C. Watson*

## The Price of Success

Big business is not an accident—it is a result. It is the fruit of purpose, energy, persistency and ADVERTISING.

You know the story of Rip Van Winkle—the man who went to sleep for 20 years and who, when he awoke, expected to find the world the same as it was when he entered slumberland.

There are men today very much like Rip Van Winkle—their point of view and their practices are those of a generation past. They do not believe in advertising.

To succeed in these modern days one must be in accord with the spirit of today. For a merchant this means that he must advertise, if he would prosper.

**A WORD TO THE PUBLIC**

Where are you served best and most pleasingly? The answer is almost sure to be—"Where we are invited and made welcome." At those shops which prize our custom enough to seek it, and who ask for it every week through the medium of advertisements in THE UNION ADVOCATE!

**Shop Where You Are Invited to Shop**