Perron Boulevard, skirting the shore of the picturesque Gaspé peninsula, runs through many a quaint village.
Development of Low Cost Asphalt Highways in Canada

For as far back as most of us remember, even to those tender years when the desire for worldly success was as a seed that had not yet made contact with mother earth, certain sayings were imprinted in our ears—sayings which had all the semblance of truth, and knowledge born of experience. We accepted them at first as a matter of course, and when we reached an age when we could comprehend their import we cherished them for our present and future guidance. We refer to such sayings as "A rolling stone gathers no moss"; "The fields on the other side of the valley are no greener than those on your side"; and "Stick to your bush and you'll gather more berries."

Splendid sayings, but we wonder what would have been the progress of this earth if man had never looked on the green fields away over yonder; if the cave dweller had been satisfied with his rock-bound home and the food he could secure in its immediate surroundings. We don't know what kind of food the caveman ate, but it is certain there came a day when he became dissatisfied with it and longed for a change in diet. And it is also certain that this day arrived a definite step in the progress of the world was taken.

It is reasonable to assume that it was in quest of new food that man first ventured into the unknown. His wanderings wouldn't be very extensive at first, possibly mere excursions, in this direction and that, from his home base, until he found a place offering greater variety of food and suitable shelter. In the meantime, in his goings and comings, he was beating paths from his cave to the happier hunting grounds, paths that would soon be familiar trails, used by his mate and children and the animals that he had domesticated for his use. This process would go on and on, new ground would always be sought and some contact kept with the old, and an ever widening system of paths be made.

These wanderings would sooner or later bring the caveman in touch with his fellow-man—who, of necessity, would also have been making excursions and migrations, and beating paths—and another great step in the progress of mankind was made. From such chance meetings man developed social habits and eventually congregated in communities. Numbers of community would then come into being, and soon communications, either for friendly or warlike purposes, would be made between settlements, and thus the system of paths or trails would be extended.

For thousands of years such trails were the only highways men knew. Even down to the time of the development of large cities by the Babylonians and Assyrians, and despite the fact that such cities as Babylon and Thebes had within their walls some pavement constructed of asphalt blocks, roads for distant communications were practically unknown. It was not until mighty Rome started out to conquer the world that the problem of roads became a matter of importance in the affairs of men. Transportation being of the crudest type, only extreme necessities or the luxuries of Kings were transported for any distance.

With the coming of the Romans a great change took place. They saw the necessity for speed as a factor of extreme importance in the waging of war and began to develop a great system of highways, a system which not only penetrated far inland but even crossing the Mediterranean, but spread all over Europe and the British Isles. Their roads were so con-
IMPERIAL OIL REVIEW

It will be difficult for the motorist living near densely populated districts, where there are miles of beautifully paved highways, to realize that all of the road mileage in Canada is only about one per cent. Thus, paved, and that of the balance only 14 per cent has been faced with gravel or crushed stone while the remainder, or about 85 per cent, has never been surfaced.

When we take into consideration Canada's great mileage of roads, comparatively small population, and therefore, limited means, coupled with the fact that the great percentage of the roads has not been surfaced, it is obvious that, with the exception of the more thickly populated sections of the Dominion, improved equipment employing the principle of vacuum distillation and is so designed that it adheres well to the road surface, and the other requisite natural characteristics are retained to the maximum degree in the finished product.

Asphalt is made from the residue of the bubble tower and reducing stills after gasoline, furnace oil and heavy gas oil have been taken off. This reduced crude is then charged to the vacuum tower flash coil equipment. The production at this point is gas oil and lubricating oil distillates, which are taken overhead, leaving a base stock for the production of the various grades of asphalt.

This base stock is charged to the reduced asphalt tankage where it is blown with air so that it can be brought to the proper melting point, penetration, ductility and other characteristics to meet the requirements of the trade. After the blowing operation, the asphalt is delivered to insulated tankage so as to retain the heat and keep the products fluid for pumping. From this tankage the asphalt is pumped to tank cars and are drummed for delivery to the consumer.

This new method of secondary road construction, known as the mix-in-place method, using liquid asphalt and gravel, is not only adapted to roads where a good binder is lacking, but can also be applied to road beds having a comparatively crust of gravel. It gives a road in which nothing is lost of the initial investment, no dust, and an excellent driving surface which develops a crust during the first year of about two inches thick resembling closely an asphaltic concrete pavement at about one-seventh of the cost of hard surface pavement.

The Province of Manitoba, in 1929, twenty-five miles of the Emerson Highway, running out of Winnipeg, was treated by the mix-in-place method, using asphalt from Imperial refineries. Since the work was completed the road has not been touched, and on being inspected recently showed no breaks or pot holes over the

Another view of overhead equipment at Montreal Refinery, showing old asphalt coil.

Page Two

Modern equipment working on a secondary road in Western Canada.

Page Three
OIL VERSUS COAL

By G. L. L.

FUEL. For sea-propulsion, especially in three interim achieved such a position that it is difficult to see how it could be replaced either in the production of steam or in internal combustion engines. In 1897, Dr. Diesel began developing his internal combustion engine, depending for the ignition of the charge of heavy oil on the heat generated by compressing the engine air charge.

Immensely progress has been made in this direction. While the turbine developed from the last passenger vessels, direct-driven, to cargo boats, the Diesel started in the slow cargo boats and gravitated to the faster lines.

The question naturally arises: "What will be the outcome? " From Lloyd's register alone figures show that in 1919 there were 750,000 tons gross of motors, while five years later there were 2,000,000 tons gross, and has been asserted by authoritative people that the disappearance of the steam engine from ocean trade is largely a matter of time.

But the battle between the turbine and the Diesel is set and the result cannot help but be beneficial to science and trade. On one hand is the geared turbine with its higher pressures. On the other hand in the two-stroke, double acting Diesel, with its incineration power per cylinder and comparing more nearly with the unit power of the steam reciprocating engine. The internal combustion turbine is frequently used with electric generators and will be no half in the advance of mechanical inventions producing thermal efficiency. We are entering a period of forced economy and conserva-

The revolution in fuel-saving and fuel-reaching consequences, and oil has won the present position through the regular process of selection for ship propulsion.

For reasons which are far too many to seek, in every industry where conditions have been approximately the same, fuel oil has steadily won its battle. In the instance of the internal combustion engine, it has been a battle where oil has been offered to the world as an alternative fuel, and has gradually replaced coal in the great steamers. In the case of marine propulsion, where coal was the only alternative fuel, it has been a battle of two against one, and the coal has been beaten from the field. The battle is now being fought on a much broader front, with a much wider field for coal to hold, and with a much more powerful opponent, the Diesel. This battle is being fought with the Diesel engine as the opponent, and the oil as the fuel. The Diesel engine has been the most powerful and most successful opponent of the coal, and the oil as the fuel, has been the most successful opponent of the Diesel engine.
HOW TO GET RESULTS FROM YOUR VACATION

By Austin Evans

Vacation time is here, and as most folks going on holidays will be living under entirely different conditions to those prevailing in their home life, certain points should be kept in mind in order that the vacation may have beneficial rather than, as so often happens, a baneful effect. The purpose of a vacation is to enable the individual to recuperate from the loss of vitality suffered during the rest of the year, especially those engaged in indoor work, to whom such a period, wisely utilized, will prove of inestimable value.

The first requirement of a well-planned vacation is a total change of environment. Those engaged in sedentary occupations should devote their holidays to a life outdoors, and, if not accustomed to regular exercise, must be careful not to begin too strenuously. To rush out on the first day of vacation and indulge in heavy exercise means that the muscles will be over-tired and the individual rendered stiff and sore for several days. The muscles must be accustomed gradually to the changed environment, or the exercise instead of being beneficial will be distinctly detrimental.

The form of exercise taken must vary in accordance with individual taste. The importance of recreation consists in its taking place in a congenial environment and its ability to induce a pleasant mental state. For those not accustomed to strenuous exertions, is one of the best forms of exercise, the walk. The walks are along the countryside, through the woods, where the mind is diverted by the scenery, and by the conversation of a congenial companion. For those desiring and accustomed to greater activity, such as tennis, golfing, swimming and boating are beneficial. Associated with the inestimable effect of the exercise is that of living in the open air, and too much stress cannot be laid on this phase of a vacation.

The sun, in addition to being the central force of our system, possesses health-giving qualities in its rays. The time has long since passed when the fair sex would not venture out in the daytime without the old-time parasol and poke bonnet. Get as much sun as you can, but get it gradually. Those whose skin has not been exposed to the sun's rays, and especially those of a fair, delicate skin, must take their sun in small doses. A suntan has the same unfavourable effect as an overdose of exercise. Avoid burn, but endeavor to get a coat of tan, for by so doing you will lay up a store of vitality which will help you through the dark months of the coming winter.

In taking sun baths, as much of the body surface should be exposed as circumstances will permit, as the benefit derived from sun baths varies in proportion to the care of the body surface exposed.

Too much attention cannot be paid to the source of the water supply, as there are numerous diseases which are carried in drinking water. In larger cities and municipalities, as the result of care in safe-guarding the water supply, certain diseases are now almost unknown. First in this class stands typhoid fever. It is but a few years since typhoid was rife in this country, but today it is almost unknown in the larger centres. The various boards of health are only too glad to examine drinking water to ascertain whether it is fit for human consumption.

Bathing is another consideration, as it is quite possible to contract certain of these water born diseases while bathing.

It is a difficult matter, in many cases of summer habitation, to institute a proper system of sanitation, but this is of prime importance. Where there is no adequate system of sanitation, the use of chlorine of lime or other similar germicidal chemicals will give sufficient protection.

The proper protection of the food supply is a serious matter. Some summer cottagers there are not the same facilities for guarding eatables. Food must be stored in a cool place, and especially away from flies. The role played by flies in the dissemination of disease germs is a tremendous one, as these insects feed indiscriminately upon garbage, refuse and the most delicate morsels of food.

All those who take their vacation in the water should learn how to swim before venturing into dangerous localities, and more should have a sufficient knowledge of how to rescue a drowning person, and how to practice artificial respiration. Boats and canoes are safe when properly handled, but when capsizing, choose your companion with care. Do not venture out with some crack-brained idiot, who thinks rocking a boat or otherwise attempting to frighten the occupants, a good joke. Unfortunately it is not usually the practical swimmer who suffers from the accident, but some innocent person.

Before venturing into the woods, make yourself acquainted with the habits of poisonous plants.

The Lighthouse—Cap des Rosiers, Gaspé

THE GASPE PENINSULA

By L. D. Rontaille, Assistant Sales Manager, Montreal Imperial, Imperial Oil Limited

For the last decade the Province of Quebec has been the summer playground of thousands of tourists, and city dwellers from all parts of the continent. It is only in very recent years, however, that the north side of the Gaspé Peninsula has been visited by outsiders, very few being venturesome enough to risk the trip in the small fishing barges which were then the only means of transportation from one village to another.

If due attention is paid to the foregoing essentials, a summer vacation should prove of inestimable value in reconstituting the system, as well as a period of enjoyment to be looked back upon with pleasant memories, and also as an experience worth repeating in the years to follow.

The north shore was largely known from the more or less accurate descriptions—more often than not mere vagaries—of some political campaign organizer, or some drummer who, much against his will, was forced to make the trip, or else drew an imaginary picture of the Gaspé north shore from what he had seen of the Baie des Chaleurs side. The latter is extremely interesting, the rock of Percé alone being well worth the trip, but no one can boast of having seen Gaspé unless he has crossed the north side of the peninsula which is now approachable by the Perron Boulevard (Tour de Gaspé—Main Highway No. 6). The tour of the peninsula, following this highway, is more than 550 miles in length.

The Gaspé Peninsula is that part of the Province of Quebec situated between the Saint Lawrence River and the Baie des Chaleurs and covers an area of 11,400 square miles. It includes the four provincial counties of Bonaventure, Gaspé, Matape and Mataodi. The north shore of the peninsula is bordered by high cliffs and has neither bays nor harbours. The southern coast, on the contrary, is noted for its wonderful sandy beaches which are becoming more popular every year with thousands of tourists.

Along an east and west axis, lie the Shickshocks Mountains, the extreme part of the Appalachian system which enters the Province of Quebec through the States of New Hampshire and Vermont and extends as far as the southern coast of the St. Lawrence below.
IMPERIAL OIL REVIEW

Impressions of the Gaspe Peninsula

In this range, Table-bay Mountain, with an elevation of 4,450 feet, is the highest peak in South-eastern Quebec.

Exploration carried on in this region during the past few years has brought about the discovery of sulphides which indicate that bodies of ore are likely to be found in the immediate neighbourhood, and the discovery of copper, lead, zinc, iron and other minerals stimulates hopes entertained to develop the mineral possibilities of the interior of the Peninsula. The Provincial government has built fifty miles of good gravel road, snaking high hills, well-fielded rolling valleys, along the clear waters of the Cacouna River.

The population is approximately 102,516, the inhabitants being of French, English, Acadian, Jersey and Indian descent. The various groups, although differing in language, religion and customs, live peacefully together.

In 1534, Jacques Cartier landed at Gaspe on his first voyage to this continent. Historians, however, claim that this peninsula was visited 5000 years ago, by adventurers from Green Island, Madagascar, and also the stopping place of Champlain, de Monts, and other famous persons en route to the New World, and in 1638 an Acadian colony was founded on the island of St. Pierre, mouth of the Restigouche River. In September, 1759, following the fall of Quebec, these Acadian colonists were made prisoners, while a year later an English force completely destroyed the fishing stations between Gaspe and Louisbourg. After the American Revolution, many Loyalists in order to maintain their allegiance to Britain and live on British soil, settled on the shore of Baie des Chalours. Prosperity came again after many years, and later on the government began to take an exceptional interest in this region, establishing colonization, with fruitful results.

The north shore of the Gaspe coast is primarily the land of cod. "How soon will the cod come out?" and "How long will the cod stay?" are questions which express the hopes and fears of the inhabitants. As a matter of fact, cod always come and always stay long enough to be caught in such large quantities that the fisher folk are not dependent upon fish alone for their subsistence, but are able to enjoy many of the other good things of life.

The fishing industry of Gaspe began even long before the arrival of the French explorers. History relates that as early as the twelfth century important fishing stations were maintained there by Greenlanders and Eskanders. Those trading people, the Basques, also preceded the French and engaged in fishing and fur trading. The glowing reports of Jacques Cartier of this remarkable fishing ground attracted numbers of Breton and Norman fishermen. In later times, so important had this industry become, that even the farmers devoted their spare time to it. It caused Abbe Feuardent to say, on returning from a visit there in 1836: "It is the land of cod. The eyes and the nose, the tongue and throat, as well as the ears, will soon convince one that cod is the staple food, the source of animal warmth, the object of all business and conversation, of joys and sorrows, of fortune and life, and, I would add, the base of society itself.

Since the new method of classification of the fish has been adopted, cod, as prepared on the Peninsula, is of excellent quality and is in great demand in foreign countries. The Gaspe cod is well known all over the world and brings the highest prices. Mackerel fishing is second in importance to cod fishing, with herring next. Other kinds of fish caught are salmon, smelts, and lobster. Gaspe salmon is highly appreciated by epicures, and by its processe as a game fish makes a strong appeal to the sportsman.

Its vast forests make the Gaspe Peninsula one of the most beautiful timbered regions of Quebec. In spite of fires and lumbering operations, there are still many square miles of beautiful trees. The size of the timber diminishes with the altitude, and above 2,500 feet spruce and balsam are found, although they are small and scrubby. The mountain tops are bare, or else covered with a dense growth of pitch pines. There are more than five feet high. The forests contain white birch, oak, white and black spruces, maple, ash, cherry, red and jack pine, hemlock, balsam, aspen and cedar. These great timbered areas insure a remarkable future to the great lumber industry in this region.

From an agricultural standpoint, the Gaspe Peninsula may be considered a veritable paradise for the hunter and fisherman. The mountains of the interior have harboured for centuries such wild game as bear, moose, caribou, elk and deer. On the coastal plains and among the fur bearing animals, otters, martens, fox, beaver, mink and lynx. The bays and marshes are ideal feeding grounds for duck, partridge, snipe, plover and other birds. The completion of the Peroux Boulevard has brought these game areas within reach.

Previous to 1925, there were practically no improved roads in the Gaspe Peninsula. At this time, the Department of Roads undertook to better the conditions of the existing roads and link them into a continuous highway. This beautiful highway, now finished, has brought to an end the isolation of this important region. It has apparently been laid out with an eye to scenic effects, for the tourist, no matter how fast his car may be travelling, gets in every chance a bird's eye view of the shoreless majesty and wide horizons of the ocean and at the same time of small white cottages clustering about the village church, of towering mountains and cliffs, or small areas of land under cultivation, and of scores of fishing craft moored in every village harbour.

Whoever craves the wealth of comfort and luxury of city life would not venture far from the large towns, but those longing for the simplicity and peace offered by the little sea villages, many of them nestling at the foot of craggy cliffs, where the folk is hospitable, and as that of Old France and the sea wind blows the spinster's manteau as quaint and romantic as those of Brittany, will discover what Gaspean hospitality means and what Gaspean fish tastes like, by stopping overnight at one of the good, semi-private hotels, such as are found at Mechin, Cap Chat, Ste. Anne des Monts, Mont Louis, or Fox River.

The tourist making this trip can be assured beforehand of good hotel accommodation, and below Mont Louis, where the railway line ends, he will find no dearth of gasoline on the line to Gaspe. The north shore of the peninsula, as far down as Grand Etang, is serviced by the Montreal Division of Imperial Oil, Limited, and there are no less than forty-five Imperial Premium and thirty-five Imperial Highway Gasoline Pumps, sometimes there being two pumps in a village. These villages are located at an approximate distance of fourteen miles from each other. Many of these gasoline pumps are flanked by Imperial Marvelube Motor Oil dispensing outfits, although, of course, the tourist is fully equipped with fully equipped garages at every turn.

He would be well advised, therefore, to cap Grass Mornie, on the Peroux Boulevard Page Eight

Anse J Valleeau is one of the many picturesque Gaspe Villages.

Mont Louis, a lovely village in the Gaspe Peninsula

Page Nine

Cap Grass Mornie, on the Peroux Boulevard
OIL VERSUS COAL

Motoring and aviation owe their existence to it. Not only do steam and gasoline engines tend to give place to the oil motor, but they themselves are beginning to use oil instead of coal. Locomotives and marine engines are more and more seek the source of their energy in oil—no more smoke, no more troublesome ash, and double the calorific power.

Therefore, oil has won the premier position through the regular process of economic selection. Control of the seven seas by heavy oils, control of the air by highly refined oils, and of the land by gasoline and illuminating and lubricating oils, will make possible the rapidly increasing progress in engineering.

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IMPERIAL OIL REVIEW

IMPERIAL PERSONALITIES

TWO shadows projected by coming events fall across the path of young Thomas Montgomery back in the nineties when Imperial Oil Limited was in its infancy. The organization and the thought of oil in business remote from Mr. Montgomerie had its mind.

In Francis Blakie's old machine shop, situated at Lochiel and Vidal Streets in Sarnia and long since obliterated by the march of progress, there occurred a conversation between Mr. Blakie—now gone to his rest—and young Tom Montgomery one morning.

"I don't know what's becoming of the business, Tom," said the employe to his apprentice.

"We never get a piston in for repairs now and they need to mean a lot of work for us. I guess it's those new cylinder oils they're using now instead of tallow. Pistons don't seem to get worn the way they used to."

The second prophetic circumstance occurred about 1896. Mr. Montgomery having served his apprenticeship to the machinist trade and having been graduated with honors—evidenced by well-cowed hands and steady biceps—had gone to the employ of the Doherty Manufacturing Company, Limited, stove makers in Sarnia. For some time the imagination of the head of the company had been fired by reports of self-propelling vehicles which had appeared on the roads in Europe and the United States. He had already built a spring-driven carriage motivated by a big oil motor, which one painstakingly wound up by means of a long handle to pay the brief glory of a two-or-three-mile-per-hour dash along the pavement when the tension was released and transformed into power on the axle. When Mr. Montgomery was employed by Mr. Doherty the latter was absorbed in building what was probably the first gasoline automobile ever built in Canada and the new hand helped him in this work. The result was a sort of a carriage body carried on four bicycle wheels. The power plant was a two-cylinder, four-cycle engine. This machine caused considerable noise and comment about the applicant's qualifications and experience, was satisfied with the answers and told him to report for duty in a week. He joined the company in 1896 with the name down in a little black notebook immediately below the name of the man who had engaged him to be engaged that day and who from 1917 until his death in 1919, was president of Imperial Oil Limited.

In his new surroundings the young machinist found plenty to do. The refinery was being remodeled. There seemed to be endless ovens of new machinery to be set up, and under the direction of A. L. Graham, who then was construction engineer, Mr. Montgomery proceeded bravely with the setting up of it.

In 1896 Mr. Graham left the Company and Mr. Montgomery became in practice though not in title, for titles were few in the small organization of those days, the chief engineer of the Company. He has continued in that office ever since, has built up a great department under his direction and has actively superintended not only the expansion of Sarnia plant but the construction of Imperial's five other refineries in Canada as well as the building of tankage and other equipment for the marketing department.

The first very big expansion in the work of the engineering department came in 1910 and was a result of the far-sighted policy which established Imperial Oil distribution in practically every hamlet in Western Canada. The erection of tanks and warehouses at compounding plants had been decided upon and Mr. Montgomery went to Winnipeg to organize the army of men required to go out and set up some two or three hundred stations in a few months' time. Box cars were bought, one end was converted into living quarters for the construction crew and the other end was made into an equipment room.
The tanks, measuring 11 1/2 feet in diameter by 20 feet in height were built at Saskia, as they still are, and were shipped on flat cars. This is the standard size of tank to this day and it is interesting in passing to note that its dimensions were determined by the floor space available on flat car and not by the minimum road clearance. The construction crew set out from Minneapolis in three tank cars, carried knock-down warehouses with them, probably the first ready-cut buildings to be erected in Canada. Arrived at a point selected for tankage the men got busy and the tanks, assembled the warehouses and in a surprisingly short time were operating. Later on by tank cars with supplies of petroleum products for the tanks and warehouses, Imperial is still building tanks and warehouses and has set them up at points that in 1910 would have been regarded as in accessible for all time.

While the expansion of Imperial's marketing facilities was a mighty undertaking and one which had an important bearing on the subsequent growth of the company—out of it came the Imperial Oil slogan, 'Everywhere in Canada' probably Mr. Montgomery's most important service to the Company has been in connection with the construction and expansion of the Imperial Oil refineries. Few men were ever called upon to supervise a bigger program of expansion than that which was carried out between 1914 and 1923. In January 1915, Leduc refinery began production after nine months' building operations. Regina refinery was built in little more than seven months and began operating in December 1916. Three months later the Montreal East refinery was completed after 11 months of work, and in February of 1918 the Dartmouth refinery was completed. Calgary refinery was built in 11 months and was completed in November, 1923.

The engineering department, under Mr. Montgomery's uninterupted direction, has become one of the most important of Imperial's auxiliaries and Mr. Montgomery is recognized as one of the oldest engineers in the oil industry.

Great must be his pride in the gigantic industrial plants that process more than eighty thousand barrels of crude each day, and in the far flung equipment of the marketing organization, which brings the refined products to consumers throughout the country, he may be even prouder of the men who have been developed under his tutelage, the graduates of his department, who occupy important positions with the Company today and among whom, to name a few, are: Clayton Dyer, technical adviser to the Board of Directors; Charles Weaver, superintendent of Sarnia refinery; F. C. Meekin, superintendent of Montreal refinery and R. L. Dussault, superintendent of the International Petroleum Company's refinery at Talara, Peru.

It was probably this inherent interest in land settlement that caused Dr. Wright, an American surgeon, a descendent of English stock, to invest in the Leduc Oil Company, an organization that sold land and carried on colonization work extensively in the Province of Saskatchewan at the beginning of 1904.

In 1904 Dr. Wright's son Robert, then a student at the University of Chicago, with a medical career in view, came up to Saskatchewan with one of the Leduc Oil Company's colonization trains. The attractions of the Canadian prairies seem to have got into his blood as he never could quite control himself in his college career after this visit.

In 1907 the call of the land again brought this young man North and West to the Empire Experimental Farm at Indian Head to see something of the farming being done in scientific agriculture and there received the sound suggestion that a successful work on a good farm would be his best experiment in agriculture. Later, consequently engaged with a farmer near Drinkwater, Sask.

Robert A. Wright is a fine specimen of manhood. He has the physique to do a day's work and enjoy it. As he stepped from his tractor last April, when we visited his farm, his hair was short cut, his overall smeared with grease, and he moved with that easy grace that enjoys tasks which require a bit of strength as well as agility.
PIERCE IMPERIAL OIL REVIEW

quaint for steers for exhibition. In 1920 he won the Shorthorn Steer Championship at the International Show at Chicago, which takes a bit of doing. He has also been a first prize winner at the Royal Winter Fair. He has recently purchased a Shorthorn bull for $1,400 a head from Mr. T. A. Russell, of Toronto. This is one of the best breed young bulls in Canada. This bull "Marshall Garbut," was imported in dam by Mr. Russell. He is of Goulton August 5th by Naemoor Cockburn a bull that sold at Perth for $6,000 and later 12 bull calves sired by him sold at Perth for an average of $4,500 each. He was by Gabley Field Marshall. The sire of this young bull is Naemoor Jingo by Naemoor Gaffer. This latter bull sold at Perth for $6,000 and sired eight bull calves in 1920 at an average of $5,500 and was also the sire of Naemoor Ian sold at Perth for $8,000 to Capt. John MacGillivray and his brothers. Naemoor Gaffer was also by Gabley Field Marshall. The greatest sire of Shorthorn breeding bulls is now in Australia in his day. This is a very attractive classy class that Mr. Wright is getting and his bloodlines are rather wonderful. He is to be delivered early in July.

In the livestock line, Mr. Wright has a fine bunch of horses, in all about 100 head. He has 40 pure bred Percheron mares which he purchased from the George Lane Estate. There are very useful horses, lacking a little in size for draught purposes, but they make strong, active, and attractive farm teams. He operates two tractors and when the rush is on they know no hours. At times he works as many as thirty horses.

To make his group of livestock complete, Mr. Wright has a fine bunch of Berkshire pigs. Some years ago he bred Berkshires but did discarded them for what he considered more closely to the ideal type for making Wilshire hogs. He has 30 brood sows and has been making selections for feeders which now average 250 pounds at an average of ten pigs to the litter. He has just about accomplished his plan. A group this size requires some effort to bring about.

A SERIOUS effort, ably and impressively backed by prominent Britishers, will be made during the summer of 1931 to fly from London to Ottawa or Winnipeg via the Anglo-Canadian Arctic Air Route which traverses England, Scotland, Iceland, Greenland, Baffin Land, Southeastern Island and a considerable section of Canada's vast northern territory. Their Royal Highnesses, the Prince of Wales, the Duke of York and the Duke of Gloucester are actively interested in the project. Two initial moves to ensure its successful development will be made this summer with the sailing of Sir Ernest Shackleton's old ship, "The Quest," for Greenland. There she will land a party of meteorologists who will remain a year gathering weather data; and with the delivery of Imperial gasoline and Marvelous oil to Pangnirtung, in Baffinland, to Cape Dorset in Fox Land and Coral Harbor in Southampton Island, arrangements for a supply of fuel and oil will have been completed. Caches of Imperial products are already available at other points in the remote north. "The Quest," will carry two aeroplanes which will be used for exploration across Greenland but it is not intended to fly from Greenland to Canadian territory this year. One of the obstacles to successful flight over this arctic air route in the past has been insufficient knowledge of the terrain and very incomplete meteorological records. The party of meteorologists who will go to Greenland aboard "The Quest" will remain there for a year, working at an airfield with an elevation of eight thousand feet above the level sea. It is questionable whether there is anywhere in the world where a more rigorous winter could be encountered than at this elevated point in the far north, and great hardships will undoubtedly be experienced before the party is taken back to England. It is expected, however, that with the data which will be compiled by this party of meteorologists and explorers, succes-
crusad flight from England to Canada will be practically assured. The route tentatively chosen does not include an overseas jump of more than 450 miles.

The project has been recognized by the British Government and the Hon. L. S. Amery has been appointed an adviser to the expedition. Among other members of the committee are Major Yerkes Courtauld, M.C., F.R.G.S., a noted Alpine climber; George Watkins, F.R.G.S., leader of the Cambridge expedition to Spitzbergen and leader of the 1928 Labrador expedition; Capt. Ralph Rayner, F.R.G.S., formerly A.D.C. to the Governor General at Ottawa, L. Wardle, F.R.G.S., who accompanied Shackleton to the North Pole and leader of the Greenland expedition.

The Imperial gasoline and Marcolube oil supplied for use by the flyers in the event of their crossing from Greenland to Canada next summer had to be shipped this summer, so remote are the points to which it is destined and so infrequent is communication with southern Canada. The products were transported on the Hudson's Bay steamer "Ungava" which sailed from Montreal in mid-July.

The development of the Anglo-Canadian Arctic Air Route is a project of the Arctic Air Route Exploration Society. Major-General J. H. MacBrien, C.B., C.M.G., D.S.O., president of the Aviation League of Canada, has been assisting the society in its work in Canada.

Distinguished Visitors at Toronto Service Station

"Shiner Week" in the early part of June, made of Toronto a cheerful city. The exciting Sobies, light-hearted and gay in their spectacular costumes, were given a royal welcome, every possible provision being made for their accommodation. Above are shown two of the many cars taking advantage of Imperial service—those of the Imperial Petroleum from Los Angeles, California, and of the Deputy Imperial Petroleum from Rochester, N.Y.

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SOUTHERN CROSS AT NEWFOUNDLAND

As Captain Kingsford-Smith's big Fokker monoplane, the "Southern Cross", turned her nose to Harbour Grace, Newfoundland, after fog and unfavourable winds and a tempestuous compass had combined to defeat her attempt to reach the United States, a message was telegraphed to Major D. S. Bell, manager of Imperial Oil Limited, sales division at St. John's, stating that supplies of gasoline and oil would be required to enable the flyers to proceed to New York. This message was received at 7:30 o'clock on the morning of June 25th, and within an hour an Imperial Oil truck was on the road from St. John's to Harbour Grace which is 25 miles distant from the island capital.

Shortly after the "Southern Cross" landed, the Imperial equipment and Major Bell were on the field and the almost empty tanks of the big Fokker were being refilled.

The "Southern Cross" encountered fog from about half way across the Atlantic to the Newfoundland coast. Their compass went out of order, due, they think, to magnetic influence, and it was only through the excellent radio contact with steamer and also with Cape Race and Belle Isle radio stations that they were able to reach Harbour Grace airfield safely, after thirty-five hours in the air, ten hours of which were flown blind. In fact, for four hours they flew only one hundred and twenty miles, evidently circling in the fog. On arrival at Harbour Grace at 8:20 a.m., Newfoundland daylight time, on June 25th, they had left only four hours' fuel supply.

The "Southern Cross" took off at 5:59 a.m., daylight time the following morning. But before leaving, Captain Kingsford-Smith took time to write the following message to the Imperial Oil manager at St. John's:

"Dear Major Bell:

"Just a line of appreciation for your services in regard to fuel and oil for the 'Southern Cross'. Everything is perfect and we are much indebted to you for your organization. The Aero 'P' oil was most economical and the motors only used 11 gallons out of 25."

Yours sincerely,

"(Signed) C. Kingsford-Smith."

Harbour Grace may figure again in the near future in transatlantic flights, as it was recently announced by Captain J. P. Saul of Captain Kingsford-Smith's party that a flight from Harbour Grace to Holland is being contemplated.

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Mr. W. Smith was born in England and educated at the ancient and royal foundation of Eton College, where the boys still wear the medieval dress of the time of Edward the Sixth (founder of the school)—long blue coats with silver buttons and leather girdle, yellow stockings, and no hats, winter or summer. The boys are still entertained annually by the Lord Mayor of London, and at this banquet, for liquid refreshment, are offered their choice of sherry or lemonsade, and at the close are presented with coins of the realm, freshly minted. The 'Bluecoat' School, in the County of London, of which Mr. Smith is a graduate, was founded by Charles II in 1667 for boys destined to become officers of the navy. It is the only school in the British Empire where boys can go direct from school into the service as midshipmen. At the time of Mr. Smith's scholarship, the Duke of Cambridge, known as the "Umbrella Duke" from his custom of requiring someone to hold an umbrella over him when it rained, was president of the school, and Mr. Smith treasures his memories of the time he met this most remarkable personage.

After leaving school, he served his full apprenticeship as a marine engineer in the shops of John Penn & Sons, Greenwich, inventors of the oscillating steam cylinder engines used in paddle steamers, and also the inventor of Penn's trunk engines used in many British battleships. These trunk engines were the forerunners of the present day internal combustion engines. During Mr. Smith's association with them, this firm built the triple expansion engines for H.M.S. "Cresset" the last ship commanded by the present king, then Duke of York.

For the next three years he was at the factory of Trieg & Co., varnish manufacturers, of Bow, London, and then went to Germany where he spent another three years with F. Pillys, varnish makers and oil boilermakers. Mr. Smith believes that the proprietor of this firm and he were the first in Europe to experiment with Chinese wood oil and make it a commercial success, that is, in the manufacture of varnishes for interior use.

From there Mr. Smith went as assistant storekeeper and salesman to Bulloch Bros. & Company, Rangoon, Burma, the leading firm of East Indian merchants, engineers and launch builders there, and who are also the owners and operators of some of the largest rice mills in the world. During his time there, Bulloch Bros. built a very large portion of the refinery equipment of the Burma Oil Company, and Mr. Smith states that they were more free and fatal in the Rangoon Refinery in the three and a half years he was there than in all of his sixteen years in the Peruvian field.

On returning to England he became head of the finishing department of Lewis Berger & Sons, Limited, the English branch of Sherwin Williams & Company, and left there in 1907 to become head of the Negritos Oil Company and Pacific Petroleum Company, Limited, the English branch of Negritos Oil Co.

Mr. W. W. Smith

Mr. and Mrs. H. W. Smith

"Doubles" on the first tennis court at Negritos. Note the sports costume.

Although there were practically no green vegetables, there were many compensations. The "gang," made up of all the nations, was "the finest bunch of bantams you ever saw"—keys, and big ones at that, were $1.00 a piece, and the best whiskey was procurable at seventy-five cents a bottle. At no time, however, was there any heavy drinking.

The staff in those days met with heavy new pipeline from Negritos to Talara. It had become inadequate and a new twelve-inch line was laid. The high lights of 1909 was the arrival of the Mina Breta from Glasgow, with a general cargo including two pianos and some eight or ten employes known as "Kiairard's lambs." It took two weeks to discharge 3,000 tons of cargo which waswed in the Mina Breta's tanks and it seemed impossible sometimes to get slings around the cargo, on account of the cramped quarters. "Never again!" was the verdict, tasks being better adapted to fluids than solids. In sailing south, the Mina Breta struck the rocky opposite Styx Point, on her starboard side, and some bags of cement which were part of the undischarged cargo, were used to plug the rent. It appears the hole in the Mina Breta's hull occurred on the opposite side to which she seemed to have struck, and this formed a subject for bitter controversy.

"The Skeervater" visited the coast some time after this and made a thorough marine survey, spending weeks on the work. However, the rock on which the Mina Breta, which by the way means "Pitch Mine," was supposed to be, could not be found. This survey confirmed the soundings and charts of H.M.S. Beagle which were taken nearly a century before, when the great naturalist, Charles Darwin, was aboard.

Another event in the early history of Negritos was the arrival of the new steam crane. Up until this time all ocean freight had to be discharged by hand and cranes. An earthquake visited this district in 1914 and the crane was destroyed. Not a single fatality occurred, due to the "yeso" houses.
which were never more than two or three miles high. This was the first city built by the Spanish "conquistadores" in Peru. This year was also marked by an exceptionally bountiful harvest of algaroba from Parinac Valley.

The next year, 1911, was remarkable for a strange malady which attacked the fish, thousands being cast adrift and rotting to pollute the beaches. There was also great mortality among all kinds of birds, and this state of affairs continued for months, from no known cause.

The arrival of the "Lucas Blanco" and of the launch "Kelmia" was interesting happenings in 1912. The launch, equipped with "Kelmia" engines was the first motor boat to possess in the Company, prior to this the boats being towed by the tug boats.

Mr. Smith spent sixteen years in the service of the Company in South America, and for the last six years has been a member of the purchasing department staff, at 36 Church Street, all questions in connection with Spanish customs declaration being referred to him. It is understood that Mr. Smith has the distinction of being the oldest employee of the International Petroleum Company in years of service, and on his retirement the profits by the provisions of the Annuities and Benefits plan, Mr. and Mrs. Smith have sailed for England, where they will make their home in Hampshire, on the confines of the New Forest. Mr. Smith's associates in the purchasing department, on his last day of service, presented him with a pair of handsome gold cuff links and a solid leather kit bag, in token of their esteem and the happy years they have spent together.

Piloted by Captain A. F. Ingram, one of the mail planes took off from Windsor at 7:14 a.m. Eastern Standard Time, touched at Toronto, and was on its way again to Montreal by 8:50 a.m. It left Montreal at 11:50 p.m. and arrived at Moncton at 3:20 p.m. Captain R. H. Bibby, another of the Canadian Airways pilots, was in charge of the westbound ship, which took off from Moncton at 5:07 a.m. Eastern Standard Time and left Montreal at 10:20 a.m. It took off from Toronto at 2:10 p.m. and landed at Windsor at 4:20 p.m. In both cases the planes made an air speed of 130 miles per hour.

Imperial Oil, Limited serviced the planes with Imperial Ethyl Aeroplane spirits and Marvelube oil, and in a letter advising of the flights, Colonel R. H. Mulock, C.B.E., D.S.O., General Manager of Canadian Airways expressed thanks for the service rendered.

Fast Air Mail Flights

AN INTERESTING and effective demonstration of what can be accomplished in fast transport of mail through eastern Canada was made on June 9th when a mail plane operated by Canadian Airways Limited, flew between Montreal and Windsor, Ontario, covering the 1,012 miles between these points at a ground speed of 131 miles per hour in one instance, and 144 miles per hour in the other. The difference in time is accounted for by the fact that a south west wind slightly accelerated the speed of the eastbound ship, while the westbound plane had to contend against it.

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for ice cream and pop, prize selection committees interested themselves and the patience of storekeepers in trying to get something new and suitable for athletes ranging in age from 6 to 60; tickets, badges and programmes have been printed and distributed; contracts have been made for transportation, in a last final flurry of anticipation the family charter has been transferred round to the nearest Imperial Service Station and averted, greased, oiled and fuelled, to say nothing of watered, aired and wiped gratis, the picnic basket has been laid in load in readiness and finery, suitable to the occasion ranges from every convenient bedroom wall-bracket.

Then it is nature must take its course and our plans fructify for the picnic grounds at La Salle Park. There they found everything that could be desired to please the eye, satisfy the appetite for either refreshment or enjoyment, or provide rest and relaxation for the more sedate tastes. Through the leafy branches that provided shade for the picnic tables could be seen angular glimpses of the sunny waters of the bay, and as the hours sped, increasing numbers sought relief in its cooling depths. The green of the trees and the blue of the waves ful beauty and the happy faculty of blending even the losers away satisfied. Mrs. Hess assisted Miss Hurry and Mr. Gordon in selecting the prize babies.

Then we had a bicycle riding competition for boys and girls. It wasn’t as simple as it looked and a "speed-cop" would have found many excuses for halting the cyclists before the Court for reckless driving.

The sports programme ran its appointed course with many novelties. A cytine in the crowd suggested that the "slow motion race" should have been entitled "the 5 p.m. dash for the elevators," whilst of the sprits would have passed for the 3 p.m. rush for the same goal. Every event had a record entry with the notable exception of the race for men over 50. To be in the Imperial service is, apparently, to remain young. Streusen in the extreme was the competition for the P. F. Sinclair trophy which went to Princess Street by reason of their superior throw and since then.

Winning the honour of Toronto against the challenge of Hamilton, but the long and a strong pull. Great satisfaction was expressed by the winners on the careful and appropriate selection made by Ken Young and his committee in charge of prizes.

With a view to segregating and mystifying the employees of the committee had planned a missing letter contest. All the ballots were scattered the letters of the phrase "Imperial Ethyl Gasoline" there being 1,000 cards inscribed with each letter of the sentence "H" of which there were only ten images of finding the vital "H" amongst 20,000 other letters! And yet in less than five minutes the two $5.00 prizes were claimed and other three competitors were just beaten out by seconds.

Equally keen was the competition between the boys and girls to secure the souvenir pins, facsimiles of our Red Ball sign, which the committee distributed as a lasting memento of the occasion. In this case the supply just met with the demand, and 500 kiddy were made happy.

At 5 p.m. came the last call for supper—mor e tea, more coffee, more milk, with loud complaints from those who had eaten too heartily at lunch time, and now found their baskets looking like Mother Hubbard’s cupboard.

“Came the evening” as the silent pictures used to inform us. Came also Howard Moore’s “Toronto All Stars” to engage Pat Sullivan’s “Hamilton Select” on the soft-ball diamond, and Hamilton saw to it that last year’s Banknote was avenged.

With many a long, lingering look at scenes of such a happy outing the youngsters were shipped back in the buses and autos, and the trick home way up. Couples could be seen winding their way to the dance pavilion, where the "sobering salt" catered to the itching foot.

The 500 "thunderstorms" promised by the Globe broke in their fury about a.m., but very few have been found who admit being caught in the rain.
Some 1,200 employees and their friends took part in the festivities, about 300 coming from Hamilton. During the afternoon Mr. and Mrs. A. M. McQueen, Mr. F. J. Wolfe, and Mr. F. B. Binell graced the occasion and brought the felicitations of the Directorate to whose consideration and generosity the happy day was largely attributable.

What though we came to business next day with fallen arches, sunburn and aching muscles; what though many a youngster refused breakfast, drank deeply of soothing syrups and lay in bed till noon; what though we had wasted our substance in riotous living and pay-day a long way off, we had taken part in a notable event and Imperial Oil’s Toronto-Hamilton picnic had been bigger, better and more enjoyable than ever.

**MARINE NOTES**

Two of the smallest vessels that have crossed the Atlantic to a Canadian port for several years docked recently at Montreal. They were the **Ottawaule** and the **Rideauite**, two new Imperial Oil ships which are now in service transporting finished products from Montreal Refinery to the Canadian capital on the Ottawa River.

Both were built in British shipyards and crossed under their own power, the **Ottawaule** following the southern track by the Azores and the **Rideauite** coming by the Northern Circle.

Both encountered bad weather and for almost the entire journey their decks were awash and the crew wore overalls. Before setting out, both ships were fitted with special deck bulwarks to break the force of the waves washing over them and these proved to be very desirable equipment indeed.

The new ships contrast interestingly in size with the mighty C. O. Stillman, the flagship of the Imperial and International fleets and largest tanker afloat. The **Ottawaule** and **Rideauite** are each 220 feet long with a 53’ beam and 15’ depth. They carry 2,500 barrels each. The C. O. Stillman is 565’ long with 75’ 4” beam and 44’ 6” depth and can carry 166,000 barrels. With the exception of the Muskoka, a tiny 240 barrel craft which plies its summer trade on the Muskoka Lakes, and the Fuelle and Nanaimoite, both of approximately 3,000 barrel capacity, the **Ottawaule** and **Rideauite** are the smallest tankers in the Imperial fleet.

The **Ottawaule** crossed the Atlantic under the command of Captain A. G. Cameron, and Captain D. G. Williams was in command of the **Rideauite** for her crossing.
1929 World Crude Oil Production. The above chart shows the origin of crude petroleum which was brought to the surface last year. Canada still remains a very small producer with a total of 1,133,000 barrels.