They’re putting the squeeze on gasoline... page 2
Today’s powerful new cars require gasoline of higher and higher quality. The oil industry is investing millions of dollars annually to provide it—by Earle Bristoe

Stars under the stars... page 9
An increasingly popular outdoor recreation for Canadians is the drive-in theatre. It solves babysitting problems for many families—by Pat McKee

Five graduates receive fellowships... page 11
How the chicken became king of Nova Scotia’s fruit belt... page 12
Nova Scotia hothouses and hatcheries now earn $11 million a year—double the return of all fruits and vegetables and almost as much as the dairy industry—by Gordon Wesley

How Sydney Watson sees Canada... page 16
The mural in Imperial’s board room is a unique picture of industrial Canada

What you should know about superhighways... page 18
How to drive the superhighways is something all drivers have to learn—by Jits Moore

The big move... page 22
It took a lot of planning for Imperial’s move to its new executive offices. But a quick, well-executed move was the planners’ reward—by Dorna Davison

Gamblers of the Great Lakes... page 28
The 2,400 fishermen who seek their livelihood in the depths of the Great Lakes risk their lives almost every time they leave port—by Duncan MacLeod

Investing in the future
This year Imperial expects its expenditures for exploration and capital equipment to reach $100 million—the largest amount for any 12-month period in its history. This means that by the end of the year the company will have spent nearly one billion dollars since the discovery of the Ledcor oil field in 1947 for exploration and production, and for marketing, refining and other plant facilities.

Up to the end of 1956 these outlays totaled more than $500 million—compared to net earnings of the company over the same period of slightly more than $400 million. About half of these earnings has been re-invested in the business each year. The balance has come from sales of bonds, debentures and holdings in other companies, and from stock issues.

Why are such heavy capital expenditures necessary? There are four principal reasons.

The first, and most important reason, is to meet the general growth of demand for oil products. This compels continuous and expanding outlays for exploration, production, refining, transportation and marketing. As Imperial’s competitors are only too eager to grasp any opportunity that it neglects, the company has no choice but to spend money or lose position.

The second reason is to lower operating charges. Sometimes lower costs can be achieved by organization or administrative changes but, more often than not, capital expenditures are needed.

The third purpose is to provide more products from petroleum. Imperial’s research program is revealing that more and more new products can be produced from oil; and it is finding new, less costly methods of making products formerly derived from other raw materials. This is why Imperial is spending large sums of money for petrochemical developments.

The fourth reason for the capital outlays is to meet the continuing demand by the Canadian consumer for ever-better product quality—more value must be packed into every gallon. Often this involves new and revolutionary developments that require very large capital outlays. A classic example is motor fuel, a subject which is discussed on page two of this edition of the Review.

Published by Imperial Oil Limited, 111 St. Clair Avenue West, Toronto, Ontario. Editorial material may be reproduced without special permission. Credit lines will be appreciated. Authorized to record this page. Imperial Oil Limited. Toronto.
they're putting
the squeeze
on
gasoline

Today's sleek, powerful new cars
with high compression engines, power equipment and automatic transmissions need
gasolines undeveloped 10 years ago. To produce the high-quality
motor fuels that keep these highway queens performing in top shape, the oil industry is spending millions of dollars
on research, new processes and refining equipment

In the past few years, a queenly parade of powerful automobiles, revolutionary in body and engine designs, has come off the assembly line to find appreciative buyers, but also to pose critical new refining problems for the oil industry.

The new shoulder-high models with the wraparound windows, automatic controls, colorful interiors and jet-like designs have engines with compression ratios as high as 10 to 1 and a fraction more.

These high-compression engines are the auto manufacturers' answer to a public demand for more powerful cars. The compression ratio of an engine is a measure of the extent to which the air-fuel mixture is compressed in the cylinder before it is ignited. The greater the compression before the fuel is fired by the spark plug, the more efficient the engine and the more power the car gets from a gallon of gasoline. In a car with a compression ratio of 10 to 1, the air-fuel mixture in the cylinders is squeezed to one-tenth of its initial volume.

And the "squeeze" has been getting greater every year. Compression ratios are still rising by about half a point a year and are expected to go on rising at this rate for the next few years.

by Earle Beattie

Imperial Oil Review, August 1957
The higher compression engines have made the cars of today as finicky about their diets as a shapely beauty seeking the Miss Canada title. To perform in top shape they have required gasolines of higher and higher quality. Many cars today are burning fuel with an octane rating as high as aviation gasoline at the beginning of World War II. The gasoline used by automobiles 10 years ago would be useless in today’s cars. Some experimental cars and a few of the most powerful contemporary cars have smashed right through the octane scale, so that the industry has had to come up with a new scale for 100-plus octane gasolines.

Each year the petroleum industry finds itself faced with huge expenditures to keep pace with still greater engine power. An increase of half a point in motor compression at present levels requires an increase of one and one-half in gasoline octane number. One refinery spent $10 million to go up just one octane number. At the same time oil companies must not only supply the high octane gasolines for the big cars, but they must keep the older and less powerful cars happy with the right octane ratings for their engines. The widening spread between the old and new cars and the high cost of new manufacturing processes devoted solely to raising octane number are part of the oil industry’s gasoline problem.

In the motorist’s mind the problem is often clouded with confusion and misunderstandings about the term “octane” or its relation to a car’s compression ratio. Octane, or to be precise, octane number, is not an ingredient or additive, but a form of measurement of just one quality of a gasoline. It is an arbitrary yardstick that measures a gasoline’s resistance to that metallic sound in the cylinders known as “knock.”

The specific quality represented by octane is an essential, but not the only essential quality in a good gasoline.

The ballyhoo surrounding octane numbers often obscures the fact that balance of several qualities is the secret of making modern gasolines — a balance between five basic qualities that provide quick starts, fast warm-up, rapid and smooth acceleration, constant power and clean, economical burning for the most miles per gallon.

It is possible to make a gasoline emphasizing any one of these particular qualities, but it wouldn’t be a good gasoline for general use. Each quality is important, and none can be exaggerated to the detriment of others.

A modern gasoline is not only tailored to the mechanical specifications of the engine, but is also designed to meet the conditions under which the engine will be used.

For instance, gasolines are made to meet the demands of the particular climate in which they will operate. Humidity, temperature and altitude all cause the gasoline needs of an engine to vary. At lower altitudes air pressure is higher and the compression pressure in the engine cylinder is therefore greater — so a car in Vancouver needs gasoline several octanes higher than one in Calgary. Coolness and increased humidity cut down octane need — two reasons why some cars run more smoothly on cool, damp evenings.

Even after every climatic and engineering specification has been taken into consideration there are still characteristics about the high compression internal combustion engine over which the petroleum chemists and researchers have little or no control.

For example: while a gasoline can be tailored for the engine in a specific type of car, it is possible to take 10 cars of that type and model direct from the assembly line and find that each engine, because of differences in engineering tolerances, has a different octane need. In addition, the octane need of each of these engines will increase after the cars have been driven for a few hundred miles. This change is known as an engine’s “octane requirement increase” and is caused by minute coverings of carbon and other deposits on the piston head in the combustion chamber.

The importance of working out and allowing, as far as possible, for all these factors when designing and making a modern gasoline cannot be over-emphasized because too-low octane could eventually damage an engine. The fuel-air mixture explodes too soon, driving the gases against the piston and cylinder walls so fast that they strike like metal on metal, causing knock. The power in the fuel is dissipated as heat and it fails to give the piston a steady, powerful push. If knock becomes extreme, it harms the pistons, robs the motor of power and wastes gasoline. It is something like the man with the size 40 suit who can’t squeeze into a size 36 without pulling it apart at the seams, sooner or later.

However, the right gasoline in the right engine will burn evenly across the cylinder head, giving the piston a smooth, strong push and the greatest possible power.

It has been suggested that if the public switched its demands in cars to greater economy, the new high octane fuels could just as easily be used to provide more miles per gallon at some sacrifice of acceleration and speed.

Increased efficiency in motor design can take two forms: more economy or more performance and power. From the end of World War II to 1953, the greater efficiency was directed towards economy and performance (higher horsepower has been achieved with the same miles per gallon) but since then it has been directed mainly towards greater performance. While this has meant quicker getaway, higher speeds and better passing ability, it has also
meant, in some cases, a loss in miles per gallon. In some cars, part of the extra power has been used on power steering, power brakes, power seats, power windows and automatic gearshifts.

With its demands for better engine performance, the public has also indicated its desire for these “driver-ease” devices. As they are all directly or indirectly powered by the auto engine this has meant a drain of horsepower from the engine’s thermal motive ability. In the larger cars it may mean as much as 30 to 50 horsepower. Gasoline, in other words, now has to do things which 20 years ago it never had to face.

Back in 1958, the average compression ratio for a U.S. car engine was 6.3 to 1 and horsepower, 113. But between 1953 and 1956, horsepower leaped ahead to an average 207 and average compression ratios to 8.5 to 1. In Canada last year some models had ratios between 9 and 9.5 to 1. The difference in compression ratio between the average car on the road and the average new-model car has doubled over the past three years. And among the new cars themselves, the compression ratio difference between the most powerful cars and the average new car has doubled.

Automobile companies have been able to advertise the dreamboat quality of their new cars with: “Engines that breathe freer and deeper to deliver an all-time high in horsepower and compression . . . instantly obedient . . . graceful in every contour — a sensational new concept of automotive performance.”

But to keep these deep-breathing, fast-paced beauties purring along the highway with the right octane rating has posed a major problem for the oil industry. It has had to produce new, higher-octane gasolines each year. In 1956 this reached a national average in Canada of 88.5 for regular and 95 for premium. Only 10 years ago the national average for premium gasoline was 84.7 octane — four points less than today’s regular gasoline. That’s why 1957 cars would knock like old jalopies if they tried to run on 1947 gasolines.

In addition to new refining techniques and processes, some oil companies have turned to adding chemical compounds to gasoline to cleanse cylinders and reduce engine fouling, and so indirectly raise gasoline octane ratings. It is in this area of engine cleanliness and efficiency that two technical approaches have emerged. The big problem is stop-and-start city driving, which with high-horsepower, high-output engines tends to build up deposits in the combustion chambers and so increases compression ratio and octane requirement. The insulating properties of the deposits slow down the rate of heat transfer to the cooling system and also contribute to octane requirement. One approach is the use of chemical additives intended to reduce engine and spark plug fouling, surface ignition and misfiring. The other approach, which Imperial is following, is to prevent the problem from developing by the use of clean-burning gasolines and engine lubricants especially designed to match the gasolines.

After many years of testing all types of auto engines on roads and in laboratories, Imperial’s research men know that the type of lubricating oil used is as important to engine cleanliness and fuel performance as the gasoline itself. They also know that the various types of anti-fouling additives developed have so far undesirable as well as desirable features. Of course, there is a tremendous amount of research being carried on in the additive field by Imperial, as well as other petroleum companies, and it could well be that an efficient anti-fouling agent will be discovered in the future.

There are other additives which are common to most gasolines. Many companies, for instance, in the winter add petroleum-based compounds which prevent carburetor icing and engine stalling. This type of winter additive was pioneered in Canada by Imperial.

All major companies add tetraethyl lead — known as TEL — to their gasolines to control knock. A minute quantity of this compound helps to make the gasoline burn evenly.

But notwithstanding additives, the intense research programs, high capital investment and new refining units, industry-wide surveys showed that in 1956 the octane rating demands of the most powerful cars on the road were crowding the octane quality of premium gasolines.

This opened up a new development in the oil industry — the introduction of new grades of gasoline. Some service stations in the U.S. installed pumps with super-octane gasoline above the premium level. At least two U.S. companies began selling 100-plus gasoline for cars with very high compression ratios. At the same time, the quality of their regular and premium gasolines was upgraded. Another U.S. company launched an experimental program in which its service stations use a single pump to mix a base grade with a special concentrate, producing gasolines of five different octane ratings.

The aim of each of these companies is to make extremely high octane fuel available for the cars that need it without penalizing motorists who don’t drive the newer cars with the powerful engines.

Other companies have stuck to the two-grade system, contending that the gap between higher and lower-powered car engines will narrow in the future. (For instance, expensive engines may not increase their compression as fast, while the less expensive engines may increase compression to be nearer the leaders.) Meanwhile these companies have increased the octane number of both regular and premium grades.

One thing is evident: the automotive engine-power race has not slowed. This year compression ratios took their biggest yearly leap in history — up to a new-car average of 8.5 to 1 in Canada. Horsepower moved ahead to an average 232.8. Five makes of 1957 cars are in the 10 to 1 compression ratio class; nine models have more than 300 horsepower.

The increased horsepower and compression ratios take on added significance when translated into gasoline needs. It costs three to four times as much to add an octane number at the 96 level as it does at the 84 octane level.

The provision of these high octane gasolines means a large and continuing capital investment by oil companies in new units and new processes. Since 1946, Imperial has invested more than $70 million in gasoline improvement, much of it in the form of catalytic cracking units. These units make gasoline from heavy oils and increase the yield, providing high octane fuel for most of the cars on the road today. But they can no longer satisfy the octane needs of the most powerful cars.

Refiners have turned to new processes beyond the cat cracker. Among the most advanced units in operation are the catalytic “refiners” which pass straight-run gasoline (with an octane range of 57 to 65) through special catalysts that help reshape the molecules and boost the octane

An increase of a half-point in motor compression at present levels needs an increase of one and a half points in gasoline octane number
count to 100 and more. But, where the cut crackers increased the yield of gasoline in the process of refining, catalytic reformers reduce the yield and thereby add to the manufacturing cost. The more severe the reforming, the less gasoline is produced.

Catalytic reformers are now installed, under construction or planned, for all Imperial Oil refineries, except that at Norman Wells, NWT. Units are already in operation at Sarnia, Halifax, Edmonton and Montreal. These, and others under construction, or projected for the immediate future, will cost Imperial a further $36 million.

In addition, other refining processes to boost octane will absorb an extra $12 million. This means that over the next six years Imperial expects to spend close to another $50 million for the sole purpose of increasing octane quality. By that time, if the power trend continues, nearly all cars on the road will need fuel approaching 100 octane.

Some engineers in the U.S. believe that if the present power trend continues, high performance cars will require 110 octane by 1960. It is estimated that such a gasoline demand would require an investment in refining facilities 40 percent above that required for today's gasoline, and the gasoline would cost half as much again to produce. This estimated 50 percent increase in manufacturing costs does not include any increases in the costs of such things as crude oil, labor and steel.

Researchers at Imperial's Sarnia laboratories are now experimenting on gasolines for the 1960s. Others there keep a close check on today's fuels. A small staff of trained technicians works in a soundproofed octane lab where it causes eerie knocking sounds out of various gasolines poured into one-cylinder engines. By turning a handle on the engines the compression ratios can be changed up and down, to produce a variety of knocking sounds that would do credit to an Alfred Hitchcock movie.

The research men have found that problems may multiply for the motorist as compression ratios rise. Spark plugs begin to fail sooner, keener tune-ups are often required and surface ignition often develops — that condition where the fuel fires from hot, glowing deposits. A powerful engine may be free from knock when 95 octane gasoline is used, but require somewhat higher octane if surface ignition is to be avoided.

It has been said that the rise in compression ratios has been in response to public demand and that the public can still buy low-compression cars if it wishes. To this, oil company officials add that those who do prefer the high-compression cars must be prepared to pay more for the higher-octane gasoline their engines demand. W. O. Twaits, executive vice-president of Imperial, underlined this recently when he said, "The oil industry is fast reaching the point where higher gasoline quality will have to be reflected in higher prices."

If still more powerful cars with higher compression ratios and more "critical" engines are produced they will demand fuels of increasingly exacting specifications and quality. In this case, it is probable that high-quality gasoline prices will not only increase but will continue to increase as greater demands are placed on the oil industry.

Nothing, of course, remains static in the automotive and petroleum industries which have developed side by side in dynamic fashion since the auto was first invented and gasoline ceased to be a waste product of crude oil.

The automobile industry is devoting much of its research program to new types of auto engines, such as the gas turbine and free piston engines. But present indications are that such engines will not be in general use for passenger cars for some years to come. This leaves the internal combustion engine with its increasing technical refinements and demands for high quality fuel.

An unceasing search for new refining processes goes on throughout the oil industry, and there is no doubt that new processes to produce high quality gasoline will be developed over the next few years. What is in doubt is whether these new processes will be able to increase quality without increasing costs.

Illustrated by Hans Kindfeld

Stars Under the Stars

Drive-in theatres offer two movies, playgrounds and refreshments. They'll even warm baby's bottle. That's why Canadians last year drove one million miles to visit them.

by PAT McKEE

Last year the only thing you can't do on wheels these days, J is ride a horse. You can eat, cash a cheque, return a library book, attend a church service, shop and see a movie without stepping out of the car.

One of the strongest symptoms of the changing role of the automobile is the popularity of drive-in movie theatres. Last year, Canadians paid more than $5 million to watch their favorite actors perform on converted cow pastures.

Despite the hypnotic effects of home television, Canada's automobile owners are driving an estimated million miles a year to and from this country's 230 wedge-shaped open-air amusement palaces, to watch the "stars" under the stars.

By providing a change of atmosphere from the confines of the living room, drive-ins have been much less seriously affected by...
TV than conventional indoor moving picture theatres.

The great advantage of the drive-ins is their appeal to an otherwise neglected section of the potential movie-going public. For cripples and shut-ins, they often represent the only chance to see a show. For couples who can’t afford or don’t want a babysitter, they’re the perfect cheap night out. Farmers can work till dusk, then hop into their trucks or cars without changing their clothes, and relax to the antics of Marie and Paw Kettle.

There are many other advantages to seeing movies outdoors: you don’t have to stand in line for the box office, ladies can wear their longest-feathered hats without any fear of being asked to remove them, men can come in slippers and smoke a pipe, even the family dog can get in free to adore Lassie’s latest escapades.

Perhaps the most bizarre reason for attending drive-in’s was featured in a recent Toronto movie-page advertisement: “Why not demonstrate the brith, “treat your car to a show?”

This kind of reasoning is not unusual in the industry. After the record showing of a typical Hollywood “tearjerker,” one drive-in operator quipped: “There wasn’t a dry windshield in the place.”

The Canadian drive-in boom dates back to the postwar lifting of building and location restrictions. The first units in Canada were built in Toronto at Stonecreek, Windsor and London in 1946 by Skyway Drive-In Theatres Ltd. By 1948, there were 14 drive-ins in Ontario and one in British Columbia. The number of outdoor movie installations doubled every year from 1949 to 1953.

Canada’s 230 drive-ins now have a “seating” capacity of nearly 100,000 cars. Ontario, with 89 units, tops the list; Alberta is second with 51. While 267 movie houses were permanently closed in Canada during the past year, only eight drive-ins have been dismantled since the advent of TV. Six new outdoor units were opened this season.

Nearly three-quarters of Canada’s drive-ins are individually owned. Regional Theatres, an Odeon Ltd subsidiary with a 1,000-car unit at Burnaby, B.C., plus Ontario drive-ins at Kings-}

TV
tion, Copper Cliff, Cornwall, Pembroke, St. Thomas and Sudbury, is one of the largest chains.

To encourage early attendance—essential for squeezing in the all-important two nightly shows—many drive-ins have children’s playgrounds, including swings, sand boxes, slides and seesaws. To keep the parents amused, there are horseshoe and shuffleboard tables and an occasional miniature golf course. When it’s dark enough to start the projectors turning, a cartoon features Junior back to the car. He then (theoretically) goes to sleep in the back seat. Most drive-ins will heat baby bottles, sell some stock diapers for emergencies, and one rural Maritime drive-in operator has plans for installing automatic washing machines, so that housewives can have their weekly laundry done while watching Yul Brynner.

Conventional theatres count on about 15 percent of their income from their refreshment bars, but long intermissions and the outdoor atmosphere boost the popcorn, drinks and hot dog sales of many drive-ins to 40 cents for every dollar taken at the admission gate.

Few drive-ins now have duck-to-see shows, a popular gimmick when they first started. Instead, the accent is on promoting special occasions with special movies, such as “horror screen

festivals” on Halloween. Yodelling cowboys are being used to attract crowds to some Maritime and Prairie drive-ins. Many drive-ins lend their facilities for Sunday church services.

Only fog closes the box offices. A special solution is sprayed on windshields when it’s raining, so that patrons don’t have to watch Marilyn Monroe through windshield wipers.

Because the movie industry’s booking system favors year-round houses, the drive-ins can’t lease top-flight films, but the operators don’t worry too much about the quality of their fare. They claim their audiences prefer a constant repetition of the western-plus-comedy-plus-cartoons formula.

Getting into the drive-in business requires much more than just setting up a projector on an unused cow pasture. Some 20 acres must be landscaped for a 500-car unit. You also need an expensive 80-foot high screen tower, a complicated drainage system, sound equipment, lighting, and a high fence. It’s not easy to obtain low-interest mortgage money on a few acres of gravel and concrete. Canada’s drive-ins range from plusly, 1,000-car giants at Vancouver, Winnipeg, Kitchener and Toronto to a 250-car midget at Loom Lake, Sask. The average Canadian outdoor theatre costs $100,000 and plays to 200 cars a season. Some of the Canadian drive-ins are postponing their closing dates by installing car heaters.

In a turnabout of their fundamental role, a few drive-ins close to city outskirts are installing enclosed seating space for carless movie-goers. In Canada this development started at The Grand Bay Drive-In, at Marretton, N.B., a few miles from Saint John, where 300 seats were installed to attract small boat traffic. Canadian drive-ins now have a total of 1,056 seats.

Sound is piped to most drive-in patrons relaxing in cars parked alongside raised "ramps," through underground wires connecting individual car speakers mounted on upright pipes with the car’s own sound trunk. For the customer who “forgets" to place the speaker on the stand, the industry will soon introduce its latest invention: speaker stands that ring bells and flash lights at the sign of any tampering.

Drive-ins recently won recognition from an unusual source. Because they make distinctive landmarks from the air, they’re being marked on the aerial navigation charts of airline pilots for use as a “barometer" of their success.

The drive-in of the future may be the "fly-in"—a temporary amusement perch for the bored helicopter commuters of tomorrow.

The fresh air boats sales of popcones, soft drinks and hot dogs

FIVE GRADUATES RECEIVE FELLOWSHIPS

This fall Gordon Williams of Minnedosa, Man., will start a study of certain geological formations in central Alberta. Donald Forster of Toronto will be delving into theories of money and banking at Harvard while Jim Woods of Halleybury, Ont., will begin graduate work in mathematical physics at Princeton University.

On the other side of the Atlantic, Barry Milliman of Ottawa will continue his studies in biophysics at the University of London. Koen and Ken Hillman of Kingston will be at Oxford analyzing British foreign policy.

All five are 1957 winners of Imperial Oil fellowships that may be held for three years and are worth up to $6,000 each. This brings to 13 the number of Canadian students currently working towards a Ph.D. in universities of their own choice under the special fellowship plan. Since the plan was instituted in 1946, 50 graduates of Canadian universities have received financial assistance. Each winner is granted $1,250 a year plus $750 if studies are carried on during the summer months.

During this year’s fellowship winners were recipients of many university honors. Gordon Williams, a graduate in geophysics and chemistry from Manitoba’s Brandon College, won the University Gold Medal for highest general proficiency in the university. Donald Forster graduated in political science and economics from the University of Toronto. His awards included the Governor-General’s Medal for highest standing in any graduating course and a Woodrow Wilson Fellowship, only four of which were awarded in Canada. Jim Woods took science at Queen’s and won the Queen’s Provincial, the IODE Provincial and Ontario Hydro scholarships.

At Carleton College, Barry Milliman majored in physics, with mathematics and biology as associated subjects. He won a Banting-Stobart award in 1954 and two IODE Scholarships in each of the next two years. Oxford-bound Ken Hillman specialized in modern history at Queen’s. As an undergraduate, he won 15 scholarships, fellowships, medals and prizes.

The fellowship plan encourages research in the arts and sciences and will help prepare these young Canadians for their contribution to the growth and welfare of Canada. If the research leads to any important discoveries, Imperial waives all rights to any resulting patents. The holders are free to seek any future employment they wish.

Winners are nominated by their universities and then selected by a committee appointed by the National Conference of Canadian Universities and Imperial. Chairman of the committee is Prof. W. John Lees, director of the department of extension, University of Montreal. Other members were Dr. R. P. Graham, department of chemistry at Mc-Master, and Donald Dodd, director of pur chemistry, National Research Council; and J. F. L. Young, director of industrial relations at Queen’s.
How the chicken became KING of Nova Scotia’s fruit belt
by Gordon Wesley

One bright summer afternoon in the Twenties, F. Waldo Walsh, a young representative of the federal Department of Agriculture, called at the big Annapolis Valley fruit farm of Manning K. Ellis, Port Williams, one of Nova Scotia’s leading apple growers. Walsh’s job was to promote the pig industry. But when he started talking pigs, Ellis raised his hands in protest.

“You’re a pretty discouraging job, Walsh—trying to interest a fruit farmer in hogs,” Ellis told him. “You’ll have to be a real salesman to do that. However, there’s a fellow in your department named Arthur Curran that I take off my hat to. He’s a born salesman. He’s so good he’s going to cost me money. He’s talked my boy, Don, into the chicken business and now I have to buy a brooder and 300 Leghorns just to prove there’s nothing in it. Got to get the foolish idea out of the boy’s head.”

Walsh smiled, sympathetically. “Now a good pig is different,” he interjected. “You can look him in the eye and talk to him. Pigs are smart. But chickens are just plain stupid!”

In later years the two men had occasion to chuckle over this conversation because—stupid or not—the once despised chicken has completely upset the apple cart in Nova Scotia. Many farmers still produce the luscious apples for which the 100-mile-long Annapolis Valley is famed, but on a great number of farms from Digby to Windsor—including Ellis’—the land has been stripped bare of trees to make way for large modern henhouses. The egg and poultry business has taken such giant strides in recent years that it’s now an $11 million-a-year business—about double that of all fruits and vegetables combined and almost as big as the dairy industry. The 16 million dozen eggs laid by Nova Scotia’s hens in a single year would form a 7,350-mile necklace that would virtually encircle Canada.

Strange to relate, Manning Ellis, since deceased, played a leading role in getting the chicken crowned king of the fruit belt. And Walsh, although he still has a soft spot for pigs has done much to promote the poultry industry as Nova Scotia’s deputy minister of agriculture.

Ellis, Sr., wasn’t the only farmer in the Annapolis Valley with an aversion to poultry. These men grew up in an era when the farmer’s wife had a dozen or so hens clucking around the barnyard, feeding for themselves and picking up insects.

“In those days,” one farmer recalled, “a setting of hens was 13. You traded with a neighbor to get new stock. You’d get a broody hen and set her in a barrel with some straw in it. In a month or so you got a chicken. There was only one grade of eggs—fresh. Eggs were considered a means of exchange at the country store. They paid for the baking soda, horsehoe nails, or a straw hat. Sometimes the eggs stayed in the store a week or more until the storekeeper himself or some peddler took them to town on his regular trip. The smell from some of these eggs when the housewife broke them would have made a polecat blush.”

In that period it was impossible to buy Nova Scotian dressed poultry to compete with the imported product. The story of the industry was poor housing, poor feeding, poor killing, and poor marketing. Producers killed their chickens with an axe and dumped them on the local market out of a brass sack or tea chest.

This deplorable state of the poultry industry disturbed men of vision like J. P. “Joe” Landry, Nova Scotia’s first poultry husbandman, and Arthur Curran, who had arrived in the Twenties to supervise the federal Department of Agriculture’s grading services. Both men had been preaching the need for reform but, until the Ellis’ venture, they had made little headway among skeptical farmers.

Young Don Ellis, fresh out of the agricultural college at Guelph, Ont., had been a receptive listener to Curran’s sales talk about the future of the industry. So, in 1927, father and son went into the poultry business—to the amusement of neighboring farmers who shared the prevalent viewpoint that chickens on a farm were little more than a “ghast damned nuisance.” Few, if any, realized that this was the start of a new deal in the Valley’s economy.

Before long, Ellis’ poultry operation was rolling. By 1931, it was well in the black. Then, a minor tragedy occurred. Fire...
destroyed the hen house. But Ellis had a hatchery by then and was able to stay in business. Eventually, they built a new hen-house and continued to expand.

Meanwhile the sceptics began to take a second look at what was happening on the Ellis farm. Now, when Joe Laundy and Curran talked poultry, they found more and more farmers willing to listen. There were, of course, disapprovers. William Kingish, of Pugwash, one of the first to recognize the value of the industry, went overboard and purchased 1,000 chicks. In two weeks pullorum (a bacterial disease) wiped out the lot.

But it was increasing numbers of farmers in the Annapolis Valley who had had little heart for chicken farming began to consider it as a potential source of income. It was a fortuitous step for those who took the gamble because World War II was around the corner and when the conflict started, the bottom suddenly fell out of the apple market.

Nova Scotia had been exporting the bulk of her apples to the United Kingdom but now, with shipping space at a premium, these shipments came to a sudden stop. Those who had begun to switch from apples to eggs were in a favorable position when, in 1940, Great Britain signed a contract with the Canadian government for all the eggs it could supply. More and more Valley farmers went into the poultry business.

At war's end, Nova Scotia's poultrymen were well established in business. Those who had visions of recapturing the United Kingdom apple market were doomed to disappointment. The bulk of the pre-war apple shipments were cooking varieties.

When these shipments ceased, Britain began growing her own and, at the end of the war, British farmers were equipped to supply the home market. Furthermore, Britain lacked Canadian dollars and would buy only desert varieties which Nova Scotia was not prepared to supply. Throughout the Annapolis Valley, the apple growers began ripping out over a million trees under a federal-provincial assistance program and replacing them with a few proven desert varieties. Some growers decided to abandon fruit farming entirely and concentrate on poultry.

Among the latter group were Manning and Don Ellis who were well on the road towards developing one of the province's biggest poultry operations. The business expanded year after year until today the Ells hatchery is the largest east of Ontario with 280,000 eggs in incubation at any one time.

"You're standing on 200 acres of old orchard" Don Ellis told a visitor recently. "There wasn't an apple tree to be seen. Where the trees once stood were dozens of buildings and an open range where as many as 30,000 fowls have strutted around. In a smaller field close to the hatchery were another 14,000 White Leghorns. Spotlights brighten these fields at night to scare off the 'chicken-thief' from the farm. And if that doesn't work, matchmen armed with shotguns make the rounds, ready to pick off a hungry fox or raccoon.

In the centre of the farm are the Kolter houses, first of their kind to be installed in Canada. They are circular buildings, the larger being 216 feet in diameter and covering four-fifths of an acre. Fifty percent of the wall space is of glass and each of the 217 windows can be lowered for maximum circulation of air. This ultra-modern poultry house can handle 15,000 laying hens. When used as a brooder house, the building has a capacity for 50,000 day-old chicks.

"I can recall when Dad was concerned about the operating costs of our farm because it reached the $12,000-a-year mark," grinned Don Ellis who runs the business with the able assistance of a staff headed by his brother-in-law, Charlie Cokurn. "Our wage bill today," he added, "is $150,000.

In a single year over 1,500,000 chicks break through their shells in the Ellis incubators which supply many of the Valley's poultrymen. Ellis supplies Bermuda with most of its eggs, also ships to Newfoundland and the Montreal area in addition to supplying the local market. Some years ago he set up the MicMac grading station, marketing eggs from 100 different farms, each with flocks of from 500 to 10,000 hens.

However, big as it is, the Ellis poultry and egg business is overshadowed by the business launched by George A. Chase, also of Port Williams. The most successful of all Valley orchardists, Chase was late getting started in the poultry business. Then one day in the postwar period he paused for a friendly chat with his long-time friend, Manning Ellis, and confided that he was looking for a means of expanding his farming interests.

"Ever think of trying chickens?" Ellis suggested.

"Chase made a wry face. "That's the last thing I want into my hands, chickens," he replied.

But his friend kept talking, Chase became interested and after some further thought decided to try it. An estate businessman, he took a trip to the United States and studied poultry operations in the successful centres there. Then he remedied some empty apple warehouses and filled them with chickens. Like Manning and Don Ellis he soon found that, with proper management, there was money in poultry.

Late in 1934, in ill health, Chase sold his business in the biggest deal in the history of Nova Scotia agricultural. The transaction involved 150 employees, more than 200,000 chickens, 140 head of purebred Shorthorns, 450 acres of orchard, more than 25,000 apple trees and about 2,500 acres of farmland. The purchaser was Donald F. Archibald, a young, aggressive,
SYDNEY WATSON, principal of the Ontario College of Art, took nearly two years to design his industrial interpretation of Canada in the board room of Imperial’s new executive offices. Working with one assistant, he painted the 24 by 14 foot mural in six weeks.

Each panel highlights a basic industry or natural resource and is placed, roughly, in its geographical location. While the original concept was planned with company officials and Cheve Horne, art consultant for the new building, Mr. Watson had a free hand in choosing the subject of each panel.

Most are obvious, such as west coast fishing, prairie oil, the distinctive homes of French Canada and a Newfoundland lighthouse. The atomic energy symbol illustrates Canada’s uranium resources and future role as an atomic power, while the Arctic sun forecasts the future importance of the undeveloped northlands.

The mural is painted on burlap mounted on plaster. Colors were chosen by Mr. Watson to blend with the rug and paneling of the room. Afterwards he selected a blue ceiling and blue upholstered chairs to match his wall design.

How Sydney Watson Sees Canada
WHAT YOU SHOULD KNOW ABOUT SUPERHIGHWAYS

by Jim Moore

You may be a skilled driver and yet be risking your life on superhighways. Here's the experts' advice. It will keep you out of trouble and perhaps save your life.

A northern Ontario man, holidaying in Toronto this spring, brought his vacation to a sudden halt on Highway 401 when he drove straight under the rear of a transport truck. Driving conditions were perfect and there were no skid marks. The driver did not live to tell his story.

For the police it was not necessary to hear it. They said it was "a clear-cut case of highway hypnosis." The driver had become lulled by the broad, clear ribbon of highway, had not noticed his speedometer needle mounting and had ceased being the master of his car. It had literally run away with him, and eventually carried him under the tail of the transport.

This accident differs little from those that occur with alarming frequency on four-lane and controlled-access highways in the United States and Canada. It is the type of accident that can happen to any driver—and will happen to some wherever superhighways are in use.

The broad four-lane highways are safer and more comfortable for driving than the two-lane highways that still predominate on the superhighway, head-on collisions have almost disappeared. Close, too, are traffic snarls and hazards of small towns and cities that straddle the two-lane highways. The farm side roads, still a menace on many routes, doesn't figure in the
of drivers on four-lane and controlled-access highways.

Safety is one objective of these new roads and, with very few exceptions, they are achieving it. Ontario, for example, has the highest usage of superhighways, reported that in 1955 there were 3.3 accidents per million vehicle miles traveled on all the roads in the province. The figure for accidents on two-lane highways was 3.3 and for controlled-access roads, less than half this—1.3 accidents for every million vehicle miles traveled. The figure for 1956 is expected to be even lower.

But while the accident rate on these roads is dropping, the death toll remains fairly high. The reason: As one highway official put it: “There are fewer accidents on the new roads; but when one happens, it’s usually a smash-up of the worst kind.”

Highway patrolmen say that the weight of cars crashed on the superhighways are generally worse than anything encountered on other roads.

Designed, as they are, with the safety factor foremost, why are our superhighways the scene of the most deadly accidents?

After the normal, heavy flow of traffic in any large town or city, driving on the superhighway seems incredibly easy. And that is precisely the danger. Superhighway driving seems so safe and simple that it can become a sedative that subtly lures the driver over the brink of concentration into a state of tracheo-

If you don’t keep your eyes on the road ahead! In split seconds he’s on top of it and the illusion of safety— with it, perhaps, many other things, including his life—is shattered.

Safety experts have given this major problem of the super-

highways a name. They call it “highway hypnosis.” It is a danger that the pioneers in this type of road overlooked is their

ACCIDENTS PER MILLION VEHICLE MILES

<table>
<thead>
<tr>
<th>Type of Lane</th>
<th>Miles Traveled</th>
<th>Accident Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-lane</td>
<td>1,000,000</td>
<td>1.0</td>
</tr>
<tr>
<td>2-lane</td>
<td>2,000,000</td>
<td>2.0</td>
</tr>
<tr>
<td>3-lane</td>
<td>3,000,000</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Imperial Oil Review, August 1957

In an attempt to head off the danger of "highway hypnosis," engineers have built cars with seats that can be tilted away from the windscreen to give the driver something to do. But this safeguard has given rise to another danger for the driver who has become used to covering long, straight stretches of road. He has become accustomed to planning his return traffic for perhaps one or two minutes. Then, as he begins to drive into the sweeping curve on the superhighway, he checks his mirrors and perhaps even looks at the left-hand lane to pass a slow car. Suddenly, there’s a horn blast and screech of tires. Perhaps worse, a crash.

What to do about this problem? Let us return to our example: Why did the driver look into his rear-view mirror? Nothing was in sight. Ten seconds later another car was on top of him—apparently coming from nowhere. Which car was traveling at an illegal 80 miles an hour on a curve with a visual clearance of about 400 feet. At 80 miles an hour he was covering 120 feet a second to the safe driver’s 62 feet a second. In 10 seconds the speeding car had traveled 1,200 feet, and gained 320 feet on the lead car—almost the entire visual clearance of the curve.

To stop or not to stop: offer a set of rules: make a habit of checking your rear-view mirror every few seconds; check it at least twice when taking any curve; always glance in your rear view mirror before changing your traffic lane or your speed; equip your car with a side-view mirror and check it too; and, in order to hear any car that you can’t see, keep your driving lights properly on.

The motorist on the superhighway must always remember that while the new roads make for smoother, safer driving, they also have a bred a new class of driving hazards. After years of investigation, safety officials have uncovered some of them.

Watch your speed. The road is smooth and clear. Your car is running smoothly. You begin to pay less and less attention to the road ahead. Your speedometer needle is rising and creeping past 60-65-70. While you are lulled by the apparent absence of obstacles, your car is running away with you. Before the day’s end you realize your mistake.

This is the habit of checking your speedometer at least once every minute. Remember that at 70 miles an hour you are covering 108 feet every second and even under ideal conditions you will require to up to 450 feet to bring your car to a stop.

The way superhighways do fast motorists into speeds beyond their driving skills was illustrated by an Ontario-Island who took the Pennsylvania turnpike on the way to Florida. She smashed up her car, killed herself and injured her four companions. One of the survivors, who had been in the front seat, told police that she glanced at the speedometer just before the car went out of control. It registered 85 miles an hour. "I’m sure of some of us thought we were flying," she said.

"Don’t tailgate," Unless you are clairvoyant and can read the mind of the driver in the car ahead, keep a reasonable distance behind him—at least one car length for every 10 miles of speed. If you don’t do this, the driver ahead reduces his speed, you may find yourself in his back seat—and a few seconds later the car behind you may be in your back seat. The rear-end collision is the most common cause of accidents.

Not long ago on a U.S. superhighway, a motorist drove into an unexpected fog bank and immediately reduced his speed. Within seconds these things happened: the trucker who was "tailgating" him slammed on his brakes and jackknifed his trailer across the road, blocking both lanes; immediately, 12 other cars piled up in chain reaction, each crashing into the rear of the car ahead. Wrecked autos littered the highway. Six persons were injured seriously and traffic was delayed for hours. This was the toll off road.
The transfer of Imperial’s executive offices was the biggest of its kind in Canada. Nearly 150 men loaded 300 vans to move 30,000-odd items of equipment by Derm Dunwoody

**THE BIG MOVE**

The biggest office moving operation that ever confronted a Canadian company was carried out last April with the transfer by Imperial Oil of more than 30,000 items of equipment from seven buildings in downtown Toronto to the company’s new 19-storey executive offices at 111 St. Clair Avenue West.

The move was arranged so that as little working time as possible was lost. Employees quit their former downtown offices one mid-afternoon and started the next working day in the new building three miles uptown.

After consultations with the police traffic department and representatives of the four moving companies that handled the job, the move was tackled on two successive week ends. On the first week end a relatively small effort was involved. Supplies and equipment for 175 employees were moved from two widely separated offices. The big move was made on the following three-day Easter week end when the Church and King streets block of five buildings, housing more than 900 executive-office employees, was emptied. There was a strict stipulation that no moving was to be done on Easter Sunday and Good Friday services in neighboring churches were not to be disturbed. This meant working through Thursday and Friday nights.

Details for evacuation of the old premises were worked on for several months. The master planner was John A. Church, head of Imperial’s department of building administration. As an engineer, Church believes in the value of planning and organization but, as an experienced administrator, he is realistic enough to know that any plan involving more than 900 employees and the transfer of 300 truckloads of equipment—about equal in volume to the contents of 300 five-room homes—must be flexible.
Movers, in shifts, worked 36 consecutive hours. The last load left the former offices, some century-old, 12 hours ahead of schedule.

Despite some unanticipated complications, the operation went smoothly. Like actors working from scripts, moving crews made their entrances and exits according to a blueprint that averted collisions and bottlenecks. As one van was unloading at the front door at St. Clair, another was edging up to the rear entrance. Working in shifts, Imperial employees at central posts were ready to ad lib solutions when the script no longer pointed the way. Down was breaking as the last van trundled up to the door of the new building early Saturday, April 20. It was 6:15 a.m., just 36 hours since the first vanload had left the old offices. The move was finished almost 12 hours ahead of schedule. Nothing remained but the placing of the furniture in the various offices.

In a few instances, people elected to move things in their own cars. Company doctors, for example, handled some of the medical supplies. There was also the printing department employee who relented to allow movers to handle some racks of set-up type. Instead he loaded them into his car. All went well until an over-zealous worker, entrusted momentarily with the racks on their arrival at the new premises, overloaded a dolly and hit a bump, spilling them across the sidewalk. The pied type had to be thrown away. There were other minor mishaps. All things considered, damage was slight, and when a piece of office furniture was damaged, the moving companies arranged for prompt repair.

One contractor who specializes in moving heavy machinery, employed winches, jacks, rollers and ramps to hoist hefty items from their old housings and deposit them in the new building. The biggest individual object was a five-ton cutting machine from the printing department; even after dismantling, one section weighed 4,800 pounds. Sometimes whole windows had to be taken out before bulky machines could be removed from the old buildings.

The route the moving trucks were to follow posed a special problem. Busy streets had to be by-passed and left turns avoided; further, the route had to permit the vans to approach both the new and old buildings on the right side of the street. After these and other factors were mulled over — and the police consulted for expert advice — all vehicles were routed
clockwise around a six-mile rectangle that led north and westward along Church Street and Davenport Road, north on Avenue Road to St. Clair, and back to the old buildings along Clifton Road, Jarvis and King Streets.

Altogether this involved a minimum of 1,800 van miles—about the distance between Toronto and Saskatoon. Because much of the job was done at night with headlights burning for long periods, battery maintenance was of prime concern. The moving firms had emergency crews waiting in the garages ready to replace low batteries with new ones.

Elevators in the older buildings presented some problems. Nothing could be done to increase their capacities or speeds. However, skilled operators and carefully briefed dispatchers made the most of the elevators, spared by the knowledge that a one-minute holdup while an elevator was in a wrong position would set off a chain reaction causing delays and bottlenecks all the way up the line. A thorough system of labeling helped simplify the task. No article was to be moved unless it was marked and its destination in the new building clearly indicated. When a room was emptied, the door was closed and a white tag hung on the knob.

At the new building policemen and Imperial employees did their best to keep spectators from getting in the way. They were not altogether successful. Two teenage girls smuggled themselves into an elevator in an effort to be among the first of the general public to view Toronto from the roof top observation platform. An elderly man came in with the movers and insisted on having his hair cut in the barber shop. His manner was skeptical when informed that there were no barbers on the scene.

The movers worked from the top down. When all the equipment for one floor had been installed they started in on the one below. The cleaning women worked ahead of the moving crews to make the offices ready and then followed with tidying up operations after the movers had gone. On Monday morning 1,100 employees resumed their regular duties in the new quarters. On the doors of the vacated downtown buildings hung signs: "Imperial Oil has moved to 111 St. Clair Avenue West"
GAMBLERS OF THE GREAT LAKES

by DUNCAN MacLEOD

WHEN A savage storm born on the plains of the American midwest roared up through southern Ontario on March 22, 1953, it brought with it a drama of the sea that was played out in the province's front yard, some 2,000 miles from salt water.

For on Lake Erie, the southermost of the Great Lakes, five commercial fishermen—Captain Harold Young, Gordon Rockefeller, John Siskovich, Gordon Messecar and John Wilson—on board the tug Cicero were desperately battling raging, blinding snow squalls and icy waves. In their home port of Port Dover, Ont., their wives and friends huddled about short-wave radios, praying for a message to prove the ship was still afloat.

Shortly before 7:00 p.m., the voice of Captain Young broke feebly through cracking static. But his brief message—"we're shipping water and need help bad"—brought only cold comfort. As the storm mounted with a fury that made any rescue attempt foolhardy, and the long minutes silently dragged into hours, lake-wise fishermen sadly shook their heads.

Early next morning an airplane spotted the Cicero 25 miles west of Port Dover, reeling drunkenly as angry waves swept her broadside towards the sandy shallow shore. The crew waved frantically from port holes. It was not until late afternoon, when the pounding surf had lessened, that the half-frozen and exhausted men could be brought to shore. But one—John Wilson—never came back. He had been lost overboard the previous night.

Such a tragedy is not unusual among Great Lakes commercial fishermen. They leave their picturesque ports from blustering March to wintry December to set their nets. They brave freezing gales, drifting ice floes, impenetrable fogs, knife-like reefs, dangerous shoals and violent summer thunderstorms. But it is in the early spring and late autumn, when fishing is best, that the fishermen face the greatest danger. At these times cold air
Spout, all-steel fishing tugs have been favorites for 30 years

Steel construction. But while the steel coat is the tug's best defense, it is also their worst weakness. For the weight of the heavy plates raises the tonnage and so sacrifices speed for safety. The 65-foot tugs weigh 30 tons enabling the 150-horsepower diesel engines to propel them at a top speed of only 12 miles per hour. (Great Lakes fishermen do not use nautical terms.)

Few fishermen could afford higher horsepower engines merely for the luxury of added safety. Tugs cost anywhere from $10,000 to $25,000, depending on size, and usually represent the savings of half a lifetime. Of the 220 tugs based in Great Lakes' Canadian ports, nearly all are privately-owned and worked as a family venture with the father as captain and his sons and nephews as the crew. Many of these "family tugs" have been passed down from father to sons. The remainder are owned by 35 Canadian fish-processing plants and manned by crews who work on shares. Nearly all the tugs were built by 15 small shipbuilding companies in the lake fishing ports.

The combined value of the Canadian Great Lakes fishing fleet—including tugs, launches, row boats, nets and other gear—is about $8 million. From this investment 2,400 Canadian fishermen reap an average annual harvest of 40 million pounds of fish, worth $6 million. In comparison, Canada's total fish catch averages 1,300 million pounds, valued at $150 million.

Today one-third of the value of the Great Lakes catch is Lake Erie blue pikeperch. In the past few decades, the catch of the two most valuable and numerous fish in the Great Lakes—the lake trout and whitefish—has been rapidly decreasing. Their decline to a small extent has been caused by overfishing. But the real reason is the invasion of the sea lamprey and smelt into the upper Great Lakes. The sea lamprey, an eel-like parasite, lives off the blood and body juices of other fish, and has brought lake trout to the verge of extinction in Lake Huron and Lake Michigan. Smelt, a small carnivorous fish, have gradually increased over the past 25 years, until they are now the predominant species in the Great Lakes.

The lamprey and smelt thus threaten to end one of Canada's oldest industries. For the men who began its lake fisheries were migrant fishermen from New England, Nova Scotia and New-
foundland, whose fish, together with wild animals, were the principal food for early frontier garrisons, for posts, lumbering camps and pioneer villages. As the villages grew into towns and cities the market for fish proportionately increased and immigrating Scotch and English fishermen were attracted to the prosperous fishing ports. Today the descendants of these early settlers still form the bulk of the fishermen, but their ranks have recently been swelled by immigrants from sea-faring countries such as Norway, Holland, Latvia and Lithuania.

Most of these newcomers have been attracted to Lake Erie; for its 9,940 square miles are the world’s richest inland marine farm, with an average catch—including American and Canadian fishermen—of 60 million pounds, out of a total of 120 million for all the Great Lakes. Over half of Lake Erie’s total is caught by Canadian fishermen.

Lake Erie owes its predominance to the fact it is extremely shallow, averaging only 58 feet in depth. Consequently its fertile shools and bars grow multitudes of minute plankton and plant life that feed 93 species of fish. Of these the most important commercially are blue and yellow pickerel, whitefish, ciscoes (herring), perch, silver bass, smelt and sturgeon. (Lake trout cannot live in Lake Erie’s shallow waters.)

Paradoxically while Lake Erie’s shallowness is the fishermen’s best friend, it is also their worst enemy. For hurricane-velocity storms whip its waters into raging waves in a matter of minutes. Moreover Lake Erie’s rakish northeast position enables prevailing storms from the southwest to roar up its length, often lowering its depth in the west by as much as 10 feet and raising it a corresponding amount in the east. There are also other dangers. Lake Erie’s shores are extremely shallow and booby-trapped with shoals and reefs and, with no natural harbors, it is difficult for ships to find shelter.

But Lake Erie’s wealth of fish is the main source of income for a score of white-cottage fishing villages and towns dotting its Canadian coastline with such names as Port Burwell, Port Dover, Port Maitland, Port Rowan, Port Stanley, Erieau, Wheatley, Leamington and Kingsville.

Port Dover, a town of 2,600, drowns on high banks overlooking wide sandy beaches and boasts of being the home of the world’s largest fresh-water fishing fleet. Port Dover’s annual income is $1 million from summer vacations; $15 million from several small industries and $3 million from the fishing fleet. Its economic heart is the wharfs on the tiny River Lynn that winds through the town, where tugs and launches, with such names as the Dover Clipper and Dover Rose unload their cargoes of fish at private and co-operative processing plants.

The heroes of Port Dover are the captains of the fishing fleet; upon their shoulders rests the economic welfare of the community. Theirs is no easy job. For in addition to having the courage to risk their lives and those of their crews, they must know where the fish will be moving at various times of the year, be able to find the nets they have set several days previously without wasting valuable time, be keen judges of weather phenomena and skilled seamen in stormy seas.

Notwithstanding the risks, small rewards, and the skills that take a lifetime to learn, it is a standing joke in Port Dover that a fisherman has as much chance to give up fishing as a fish has to give up swimming.

To some citizens of Port Dover this is a mystery. Harold J. Scholteid, the partly mayor of Port Dover, who owns the Erie Beach Hotel, says: “I often wonder what peculiar fascination fishing has to make a man willing to work so little, especially when I awaken on a wintry March dawn and hear the foghorns blowing and the sleigh striking my windowspane and think of the fishermen out on the lake. Then I thank my stars that I am a hotelman and crawl back into my nice warm comfortable bed.”

To Captain Charles Gamble, a chunky, robust, middle-aged man who combines a lifelong love of fishing with a passion for flower beds, there is no great mystery. He explains: “There is a strange appeal to the water, a siren call that once you have heard is hard to resist. Morever fishing is a gamble that appeals to some deep-seated primitive urge in mankind. And the storms are a struggle against the forces of nature. All in all, I can’t think of a more satisfying life”