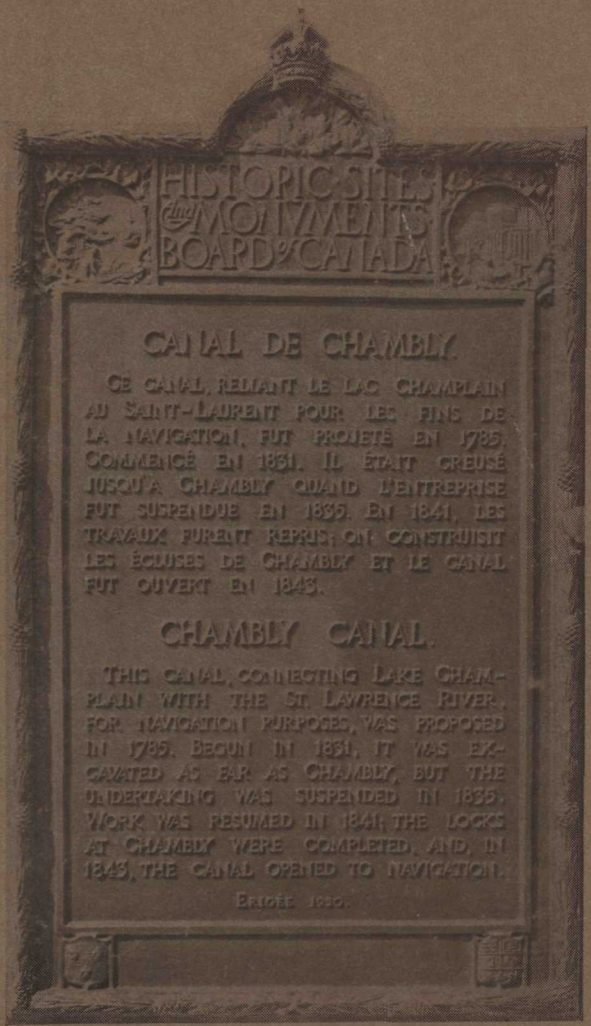
CHAMBLY CANAL



100 Years of Service

1843-1943

— *Dedication* —

This brief survey of one of our great historical rivers is dedicated to those valiant souls who first braved its waters, traced its sources, explored its forests, settled its banks, resisted its attackers, and to their successors who but few in numbers, dug with their own hands, a century ago, these canals the forerunners of our great transport systems.

To these two groups must be added those faithful engineers and employees who for one hundred years, night or day; fair weather or foul, have maintained this important international trade route.

May the faith, courage and energy of the pioneers inspire us their descendants to face with equal boldness the great tasks which lie ahead.

CHAMBLY CANAL

Hundredth Anniversary

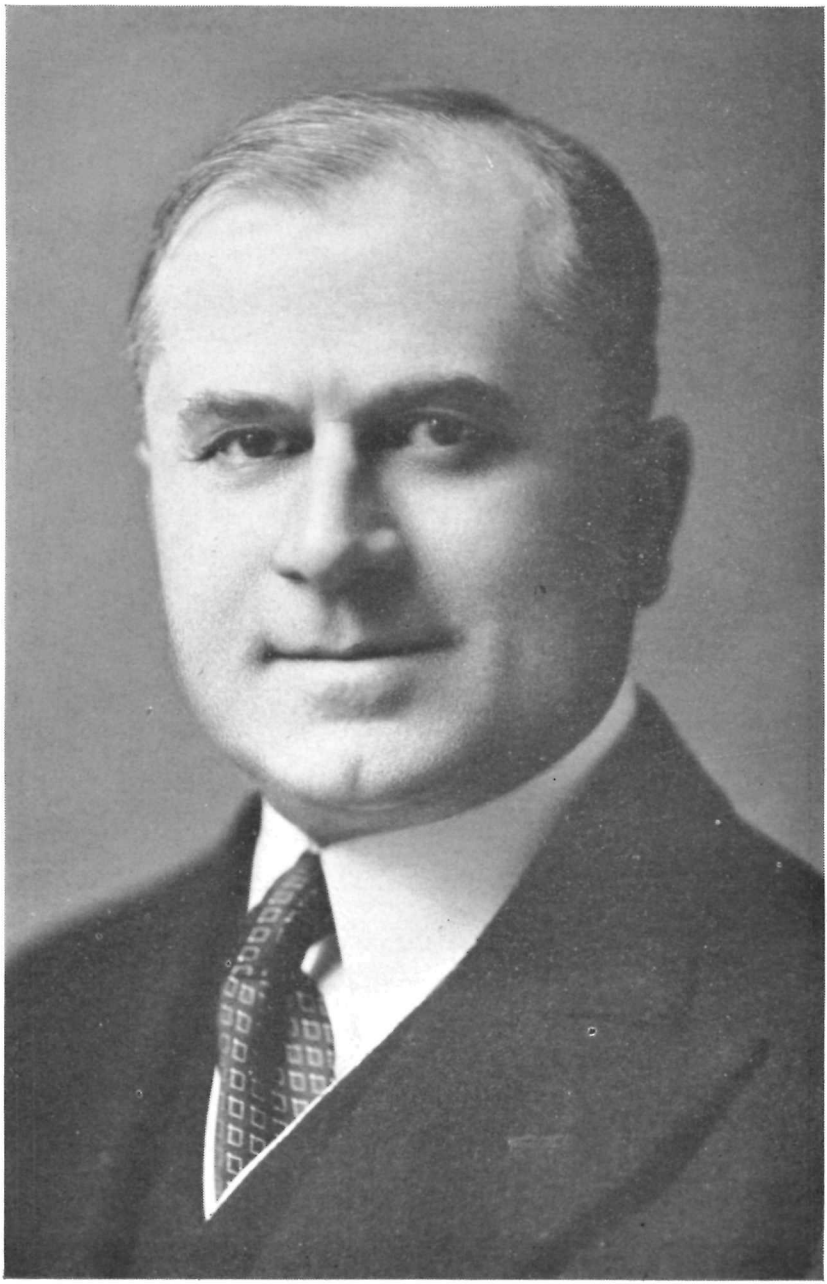
SERVING

Ottawa Valley - St. Lawrence Ports
The Saguenay - Richelieu Valley
Great Lakes - Northeastern United States
American Ports - World Ports

History of Richelieu River Navigation

SEPTEMBER 5, 1943

CHAMBLY, P. Q., CANADA



HON. J. E. MICHAUD, M.P.,
Minister of Transport.

CELEBRATION

OF THE

CENTENARY OF THE CHAMBLY CANAL

AT

CHAMBLY, SEPTEMBER 5, 1943

EXECUTIVE COMMITTEE

Guy Tombs, Chairman	President, Guy Tombs Limited.
Jos. Simard	President, Marine Industries Ltd.
Jas. Wilson	President, Shawinigan Water & Power Co.
J. C. A. Turcotte	President, Sorel Harbour Tugs Ltd.
Walter J. Langston	President, Canada Iron Foundries Ltd.
J. Ed. Labelle, K.C.	President, Canadian Vickers Ltd.
C. G. Davie	President, Davie Transportation Co. Ltd.
L. A. Palmer	Pres. Quebec Paper Sales & Transportation Co. subsidiary of Donacona Paper Co.
L. Lachapelle	Contractor and Importer (Sorel).
Daniel F. Young	President, Daniel F. Young, Inc.
Herbert H. Lank	Vice-President, Canadian Industries Ltd.
F. Faure	Vice-President, Consolidated Paper Corp. Ltd.
J. Ed. Simard	Vice-President, Sorel Industries Ltd.
Col. J. L. Dansereau	Civil Engineer.
C. T. Trotter	Gen. Manager, Standard Clay Products, Ltd.
Chas. G. Prescott	Director, Bennett Ltd.
P. M. Fox	Director, St. Lawrence Paper Mills.
W. C. Duncan	General Traffic Mgr., Aluminum Co. of Canada.

MR. GUY TOMBS, J.P.
chairman of the Executive Committee,
Chambly Canal Centenary.

CENTENARY OF THE CHAMBLY CANAL

EXECUTIVE COMMITTEE
(continued)

R. A. Campbell	General Mgr, Sincennes McNaughton Line Ltd.
L. A. W. Doherty	General Traffic Mgr., Canada Steamship Lines
C. C. Barnes	Manager, Atlantic Transportation Co. Ltd. (Subsidiary of International Paper Co.)
Hon. P. J. A. Cardin	M.P. for Richelieu-Verchères.
Vincent Dupuis	M.P. for Chambly-Rouville.
Martial Rheaume	M.P. for St. Jean-Iberville.
L. O. Regnier	President, Chambre de Commerce de St-Jean
Donat Bisson	Pres. Chambre de Commerce de Trois-Rivieres
H. H. Sheppard	President, Chambre de Commerce de Sorel.
M. Demers	President, Chambre de Commerce d'Iberville.

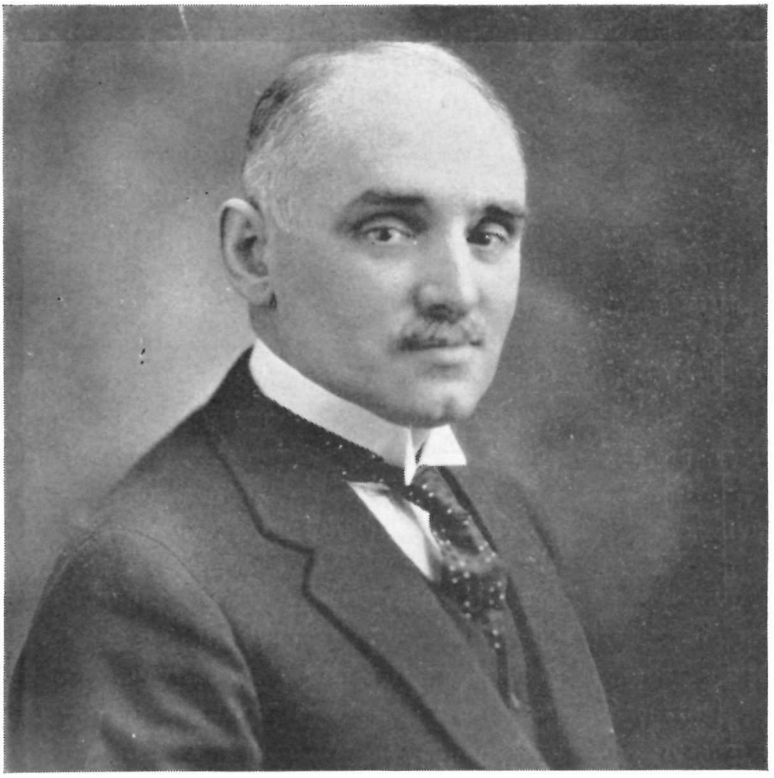
René L'Heureux,

Secretary Organizer, Chambly, P.Q.

RECEPTION COMMITTEE

CHAMBLY

Hortensius Beique	**Gardner Prescott**	**Wilfrid Pilon**
Akilas Maynard	**J. O. Galipeau**	**Charles Roy, N.P.**
Arthur Deneault	**John S. Bates**	**N. Ducharme**
James R. Beattie	**Réal Brault**	



Hon. P. J. A. CARDIN, M.P. for Richelieu-Vercheres.

MARTIAL RHEAUME, M.P.
St. Johns-Iberville-Napierville.

VINCENT DUPUIS, M.P.
Chambly-Rouville.

AN HISTORICAL RECORD OF NAVIGATION ON THE RICHELIEU RIVER

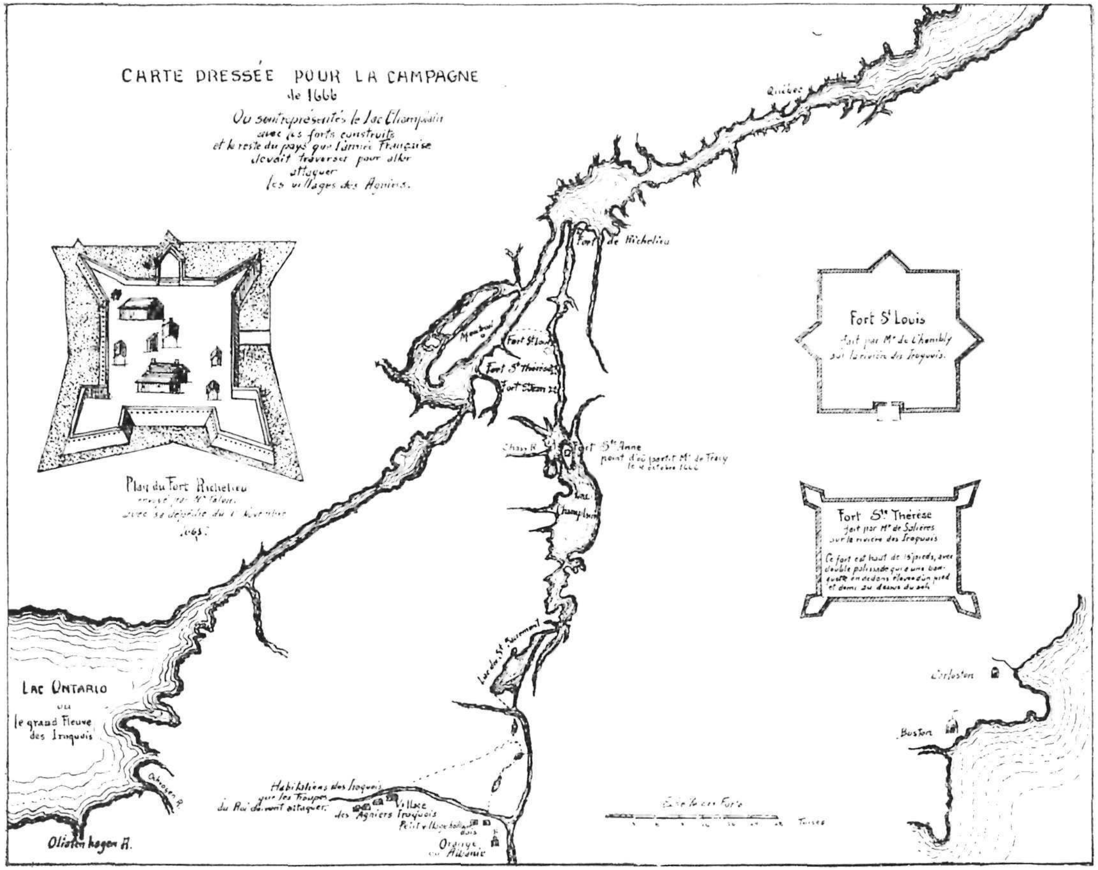
• • •

Foreword

Various distinguished writers, notably those who have traced the history of towns and villages in the valley of this beautiful stream, have already dealt adequately with the important part the Richelieu River has played in Canadian history.

The historical details relating to the canalization of this river, together with its incorporation in the internal system of navigation, however, are less known to the general public. This publication, therefore, the result of considerable research through ancient Government documents as well as reports issued by various Commissions, relates literally from old records the long struggle for improved navigation.

In order to keep this book within reasonable bounds no attempt is made in this historic occasion, beyond the grouping together of pertinent facts already recorded and so adjusting them as to present a brief history of the Richelieu River as an important artery of communication, of defence and of commerce since 1609.


CARTE DRESSÉE POUR LA CAMPAGNE
de 1666
Plan du Fort Richelieu
Fort St Louis
Fort Ste Thérèse
fait par Mr de Salières
sur la riviere des Iroquois
Fort St Louis
Fort Ste Thérèse
Fort St Jean
Fort de Richelieu
Fort Ste Anne
Québec
Montréal
Lac Champlain
LAC ONTARIO
ou
le grand Fleuve
des Iroquois
Habitations des Iroquois
que les Troupes
du Roi devoient attaquer.
Village
des Agniers Iroquois
Orange
ou Albanie
Boston
Oliston hogen R.

I

THE IROQUOIS RIVER — A TRAGIC WATERWAY

Before the discovery of Canada by Jacques Cartier the vast territories in which we live were inhabited by a large number of native tribes. They have been commonly called "Savages" because they knew nothing of civilization.

The way of life of these "children of the woods" was simple; they lived by fishing and hunting. Their customs were at once pagan and barbarian, adoring the forces of nature and practicing witchcraft; being mainly unfaithful in their alliances and frightful in their wrath, they indulged in merciless internecine warfare.

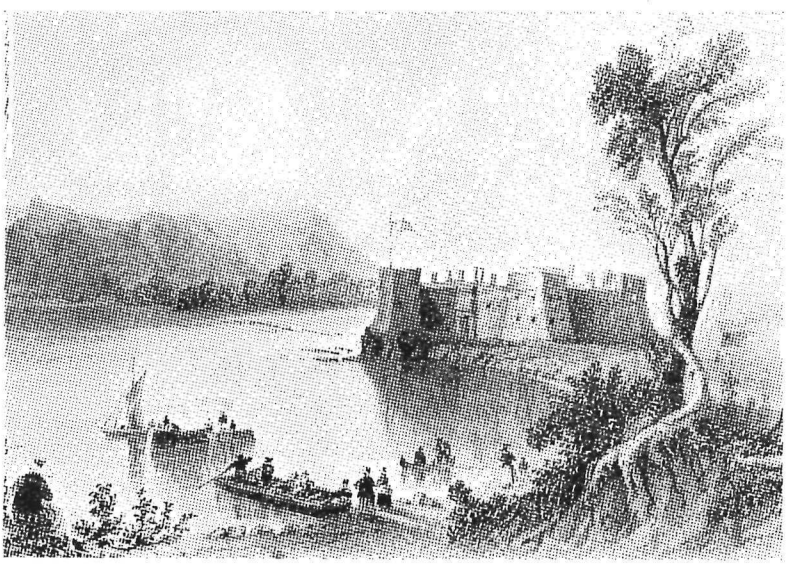
These native people were divided into wandering tribes, each with its own hunting lands, a system which often gave rise to ferocious and cruel warfare. We know from our own history that the natives had a pronounced taste for battle and blood and were addicted to treachery and torture.

The Hurons, Algonquins and Iroquois are the best known among these eastern tribes. The Richelieu valley seems to have been in Algonquin territory on the arrival of the French, whereas the Iroquois were settled more particularly in what is now Central New York between Lake Champlain and Lake Ontario.

Being both strong and aggressive the Iroquois tribes did not hesitate to go hunting in Algonquin territory. Naturally, these hunting expeditions soon resulted in warlike incursions.

The Iroquois were too well imbued with a sense of nature not to at once understand, as by instinct, the great strategic value of the Richelieu River and not take advantage of it. Encamped as they were at the head of the river they had before them an open route to the rich valleys of the Richelieu and St. Lawrence rivers. They were wont to come down these rivers by stealth in their light canoes, capturing and murdering any Algonquins encountered on their way, lying in ambush at the mouth of the river and blocking the way to the flotillas moving down stream. Surfeited with carnage they would then return to their encampments, bringing a host of captives and other spoils.

Such are the reasons for the Richelieu River having been known as the Iroquois River, the Algonquins themselves having so designated the tragic route.



A drawing of the old fort Chambly.

II

THE RICHELIEU RIVER.—GATEWAY OF EXPLORATION.

On arrival in Canada the French naturally made friends with the neighboring Algonquins and Hurons, who had shown themselves kindly disposed towards their discoverers. As allies of the Algonquins, the French became, by this very fact, the enemies of the Iroquois, a proceeding which Champlain could not foreseen would have a bearing on the fate of New France itself.

In 1609 Champlain, the real founder of New France, decided to accompany an expedition against the Iroquois. He then learned through the Algonquins of the existence of an important waterway leading to the far distant lands of the enemy.

From Champlain's records we read that "on July 7th, 1609, our party assembled at the mouth of the (Richelieu) River which is five hundred feet wide and very beautiful. The flotilla of twenty-four canoes carrying sixty men, including twelve Frenchmen, proceeded up the river for 46 miles." He further states that "there are nine or ten beautiful islands as far as the Saut which has an entrance very much in the shape of a lake," (evidently the Chambly rapids and the Basin). The savages themselves considered these rapids quite impassable so that portage had to be resorted to, through the forest and over the ground now traversed by the Chambly Canal. The party came to a halt on July 12th opposite an island (Ste. Therese) where the river becomes, once again, navigable. On July 14th, a lake (now Lake Champlain) was reached and shortly afterwards another lake (Lake St. Sacrament afterwards Lake George) about two days distant from the Iroquois settlements.

The enemy was first sighted at a spot today called Crown Point. A few gun shots sufficed to sow panic among the Iroquois. Three of their chiefs were killed, twelve prisoners taken and the camp completely destroyed. On July 29th the victors returned by the same route.

Such is the account of the white man's first navigation of the Richelieu River, a road of massacre and hate which Champlain hoped to turn into a path of civilization and peace.

After the great Champlain, the Colony came under the rule of the Companies. These corporations, too much interested in their commercial ventures, paid little attention to the defence and colonisation of the country. The Iroquois, having overcome their fright, soon took advantage of this state of affairs by subjecting the French to a veritable reign of terror. For twenty-five years, 1641 to 1666, the Colony lived in a constant state of fear. At frequent intervals, the Iroquois descended the Richelieu River, laid in ambush at Sorel and from this spot pounced upon the inhabitants of Ville-Marie and Three Rivers and even Quebec, thereafter returning to their settlements with many captives.

This reign of terror did not lessen the apostolic ardour of those who evangelized the Valley of the Richelieu. Those who read the "Relations" are filled with admiration for those missionaries who braved suffering and even death in order to preach the gospel, extend the influence of France and assure colonization of a vast country.

In 1642 the Iroquois ascended the Richelieu, bringing with them into captivity many Indians and three missionaries; Father Jogues and his two companions, Brother René Goupil and Brother Guillaume Couture, later canonized by the Roman Catholic Church.

Two years later Father Bressani was captured by the Iroquois near Sorel and taken up the Richelieu to the Cantons. The "Relations" give a complete account of the sufferings of the prisoners, especially at the Chambly portage.

Liberated from his first captivity by the Dutch, Father Jogues came back to New France to resume his activities. Taken prisoner by the Iroquois he made again the same tragic route to the Cantons where he suffered torture and death.

For many years missionaries followed their example, some of whom discovered new territories in the name of the King of France. Large western cities bear their names today. However great this may appear, the work of these explorers was less important than that of those humble missionaries, whose names are forgotten, who, counting not their own lives, visited the missions, encouraged the colonists and founded parishes. These are the real founders of the Colony because they applied themselves to assure the colonization, without which the possession of a new country is ineffective. They also made many representations to the Throne of France complaining of the lack of encouragement given by the Companies to colonization.

King Louis XIV at last mindful of New France, appointed a Viceroy, a Governor and an Intendant to the Colony. At the same time, the Carignan-Salières regiment, together with four companies of the Navarre regiment, under the Viceroy Marquis de Tracy, were dispatched to the Colony.

The energetic de Tracy realized immediately upon arrival that the Iroquois menace must be destroyed and the river closed to them at all costs. At this time the Richelieu river was, owing to its location and facilities, one of the most important rivers from a standpoint both of defence and of colonization. This explains why, from July to October, de Tracy erected three forts along the river, one at Sorel, another at Chambly and a third at Ste. Therese Island. This favourite Iroquois route was in this way entirely secured to the French.

A first expedition, organised in the depth of winter by Governor de Courcelles, was a failure, owing to inexperienced leadership and the extreme cold weather.

MR. HORTENSIUS BEIQUE,
Mayor of Chambly-Bassin.

MR. AKILAS MAYNARD,
Mayor of Chambly-Canton.

MR. ARTHUR DENEAULT,
Mayor of Chambly Parish

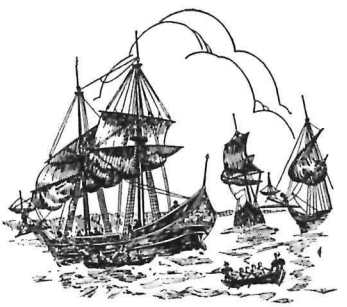
On September 14th, 1666, however, de Tracy himself, under command of the largest army yet raised in the country, (600 regulars, 600 Canadian militiamen and 800 savages) proceeded up the Richelieu River, calling on the way at the forts he had previously erected. When, on October 15th, he arrived at the Iroquois settlements, he found them to be completely abandoned. The Commander set fire to everything he came across and took possession of the country. Later the Iroquois chiefs were compelled, under fear and humiliation, to sign peace. The Colony was at last able to breathe freely and witnessed the greatest development of its history.

The Intendant Talon in turn was indefatigable, extending trade and exploration. He was responsible for encouraging officers and soldiers of the Carignan Regiment to settle in the Richelieu valley, the ancestors of some of our leading citizens. In such place names as Chambly, Sorel, St. Ours, Contrecoeur, Vercheres and Varennes, the names of these officers are still preserved. The punitive expedition had been highly successful, but it was evident that in order to make the Richelieu route fully secure, more forts were needed. Fort Ste. Anne was, therefore, erected on Lamothe island near the entrance to Lake Champlain and Fort St. Jean at the head of the St. Johns Rapids. Some time later three other forts were built, viz., Fort Ile-aux-Noix, Fort St. Frederic and Fort Carillon. (Unfortunately the Iroquois also used the upper St. Lawrence and Ottawa Rivers in their forays, witness the dreadful massacre of Lachine in 1689, when 200 inhabitants were butchered and 100 captives taken.)

All these forts which were to become the main line of defence of New France against the Iroquois and the British of New England afford ample proof of the great military significance of the Richelieu in those days. There were no roads as we understand them and this river supplied an easy means of transport for the soldiers and their equipment. It became in fact the ultimate bulwark of New France.

III

THE RICHELIEU — BULWARK OF NEW FRANCE.



All this time the English Colonies to the south, who had acquired the rights of the Dutch and the Swedes, were waxing strong and increasing in numbers yearly. The frontier was in an almost continual state of excitement; raids and rivalries over the various overlapping trade posts were of common occurrence.

The great struggle between France and England was about to commence and the Richelieu was to become the chief theatre of operations in North America. At each new attempt at invasion, the British would contemplate using this route. The French on their part would resort to it as their main line of attack or defence.

In 1690 Phipps failed before Quebec and Major General Winthrop, on his way to invade Canada by way of the Richelieu, was forced to turn back. But Captain John Peter Schuyler, Governor of Albany, came down as far as St. Jean, and avoiding the fort, attacked Laprairie. He returned the following year but this time the French were ready for him. De-Varennes, proceeding from Fort Chambly attacked in the rear and forced his withdrawal with heavy losses. The Battle Cross near St. Luc marks the spot of this encounter. Two years later Frontenac avenged these incursions by destroying Schenectady and returning with three hundred prisoners.

The familiar Richelieu-Champlain route served many predatory expeditions between New France and New England, in which little quarter was given by either side, the Indian allies being difficult to control, before the Seven Years' war. The

Richelieu played a leading part in all these operations and it was on the banks of this river that the first and last shots were exchanged in the final struggle for supremacy.

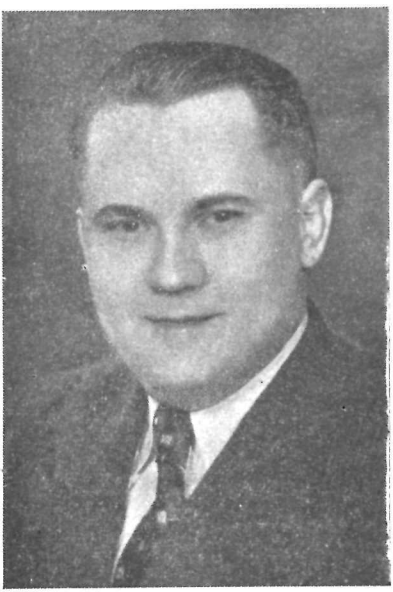
In 1704 by way of reprisal for a severe attack by Rogers Rangers against the Abenaquis, allied with the French, de Vaudreuil organised an expedition, numbering 250 soldiers, against New England. Proceeding from Fort Ste. Therese up the Richelieu through Lake Champlain and by way of the Onion and Connecticut Rivers, the party reached Deerfield (33 miles from Springfield.) During the night of February 27th the village was stormed and of the 300 inhabitants, 47 were killed and 150 taken prisoners.

Six years later, 4,000 British soldiers and 600 Iroquois under General Nicholson, were stationed on the shores of Lake St. Sacrament awaiting the arrival of Walker at Quebec with the purpose of then proceeding down the Richelieu River to invade Canada. Following the loss of a large portion of the British fleet in a violent storm of Ile-aux-oeufs, Nicholson decided to withdraw.

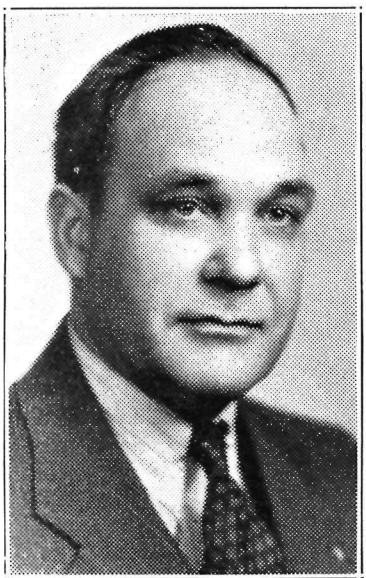
September 8th, 1755, was a day of defeat for the French forces. Baron Dieskau has proceeded to the far end of Lake St. Sacrament with 2200 regulars, 680 militiamen and 600 savages with the intention of arresting the advance of British forces about to move forward to Carillon. Colonel Johnson, later Sir William Johnson, defeated Dieskau and erected Fort William Henry on the spot, a fort which was to become the first British bastion on the Richelieu route.

The Seven Year's War which was to end hostilities between England and France had not officially started but due to good leadership and the facilities of communication, controlled by the French, notably the Richelieu and Ohio Rivers, the year 1755 was on the whole a calamitous one for British arms in North America.

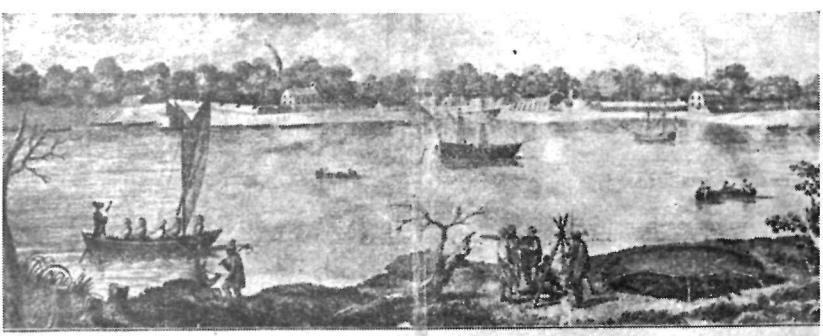
The border warfare of the French and Indians had extended to Virginia, Maryland and Pennsylvania after Brad-



MR. MOISE LEBEAU.
Mayor of St. Johns.



MR. ARMAND GOYETTE,
Mayor of Iberville.



A View of St. John's upon the River Sorell, in Canada, with the Redoubts, Works, &c.
Taken in the Year 1776 during the late War in America.
Published as the Acts direct, Jan. 1st, 1789, by William Lane, Leadenhall Street, London.
(From the Canadian Archives)

dock's defeat in 1755, hence at the opening of the final struggle, all the colonies were united and eager to conquer New France, a union which grew into the greater union against the Mother Country a few years later.

In order to avenge Baron Dieskau's defeat, Montcalm, in 1757, raised an army of 8,000 men at Carillon. During the week August 1st to August 6th, these well armed troops proceeded to cross Lake St. Sacrament. On August 7th Fort William Henry was attacked, on the 9th resistance weakened and a few days later the fort capitulated with tragic results.

In England there was, at this time, much anxiety over the turn of events. The celebrated William Pitt decided to strike a hard blow at Fort Carillon, (Ticonderoga, N.Y.,) a strategic bastion of the Richelieu and New France. General Abercrombie, with a superior force, marched on Carillon where Montcalm was awaiting him. The British general arrived on the scene at noon on July the 8th, at one o'clock and immediately launched an extremely violent frontal attack without waiting for his artillery. By seven o'clock the British and Colonials had been defeated and compelled to withdraw. This encounter was to be the last great French victory before the Cession.

At this juncture, let us picture what the Richelieu must have looked like with all these movements of troops in their gaily colored uniforms, their artillery, stores and munitions, from Quebec, Montreal and Three-Rivers, proceeding up the Richelieu with the alternate hopes and fears of victory or defeat always present in their minds.

The end of this war is too well known to need much further elaboration. Wolfe seized Quebec, Amherst marched upon Montreal with 11,000 men, Haviland, following with 4,000 proceeded down the Richelieu. After a six day siege the fort of Ile-aux-Noix capitulated; Fort St. Jean was destroyed; Chambly surrendered on September 1st; on the seventh Montreal capitulated. This marked the end of one regime, the beginning of a new.

IV

THE RICHELIEU — THE KEY TO CANADA.

The Canadians, after the disastrous wars which had ruined them, now became the subjects of the King of England; they kept faith in the future and in a durable peace and for a few years lived peacefully and quietly under the shadow, so to speak, of their church steeples. This truce was, however, not to be one of long duration and once again the Richelieu was to become the main theatre of fierce battles.

The Thirteen British colonies, whose growing dissatisfaction with Great Britain had undoubtedly been increased by the extension of the boundaries of Quebec to include the vast Ohio River and Mississippi lands, decided to rebel.

It was natural for the leaders of the Continental Congress to speculate upon the possibility of making Canada the fourteenth member, but receiving no encouragement from the Province of Quebec an invasion of Canada was decided upon.

Fort Carillon was seized by surprise. A small force was thus able to cross Lake Champlain and proceed as far as St. Johns, where the garrison was captured leaving a rich booty in the hands of the enemy who then withdrew.

But the real offensive was decided upon for September 1775. Arnold, now made a direct drive on Quebec while Montgomery proceeded down the Richelieu, hastening to besiege St. Johns, which held out for two months. In the meantime Chambly surrendered unexpectedly with the loss of huge quantities of stores and munitions. This success meant much to the Americans and left St. Johns in a des-

perate position. Preston, unable to hold out any longer, surrendered after a heroic resistance. The road was now clear to Montreal. Ten days later Montgomery reached Montreal. and from there proceeded to link up with Arnold before Quebec, where he met his death.

Successive defeats soon compelled the American forces to definitely withdraw. On June 17th, 1776, Arnold, on his way back to the United States by the Richelieu, was forced to abandon three large units of artillery at Chambly. Fort Chambly was burned, only the four walls standing. The sick and wounded were carried in all haste to Crown Point but left behind was the body of General John Thomas, a victim of small-pox, who with others was buried in the military cemetery. An English army, nine thousand strong, freshly arrived from overseas, recaptured Sorel, Chambly and St. Johns in June. In October Governor Carleton of Canada, with a fleet of three vessels and twenty gunboats, left St. Johns and attacked Arnold's force of fifteen vessels on Lake Champlain. The Americans, driven to flight in a bay, instead of surrendering, set fire to their own ships. As the season was too far advanced to risk pursuing the enemy in his own territory, Carleton deemed it wiser to retire to St. Johns and Montreal. Once again Canada was free of an enemy, thanks to the facilities of the Richelieu.

There is no need to attempt to follow the course of the war further except to note that Burgoyne's ill-fated forces assembled at Chambly and embarked for Lake Champlain at Ile-aux-Noix on June 20, 1777. The capitulation of Burgoyne at Saratoga, the same year, ensured American independence.

An unexpected result of the revolution was a much-needed addition to Canada's small population from the new United States of approximately 50,000 "Loyalists" whose descendants proudly style themselves "United Empire Loyalists". At least half of them located in the Maritime Provinces, the remainder chiefly in the Ontario wilderness, but a fair number settled

along the southern boundary of the Province of Quebec. An interesting proof of this migration was found recently by Mr. René L'Heureux, the Superintendent of Canals at Chambly, on a farm, now owned by a French speaking Canadian about three miles south of Chambly, namely three graves of the Cuyler family of Albany, N.Y. One gravestone was missing and after some research it was located elsewhere by Mr. L'Heureux.

The epitaph being of historical interest and significance is reproduced:

"SACRED
TO THE MEMORY OF
ABRAHAM CUYLER
FORMER MAYOR OF ALBANY
LIEUTENANT COLONEL COMMANDANT
OF A CORPS OF LOYAL AMERICAN REFUGEES
WHOSE LOYALTY, AND GREAT EXERTIONS AS A
BRITISH SUBJECT IN AID OF HIS MAJESTY'S ARMS
DURING THE AMERICAN WAR, OCCASIONED
HIS IMPRISONMENT AND THE CONFISCATION
OF HIS ESTATES, WHICH INDUCED HIM TO
SEEK PROTECTION IN THIS COUNTRY, THROUGH
EVERY VICISSITUDE, HE SUPPORTED HIS
PRINCIPLES WITH UNDEVIATING
RECTITUDE, HE WAS AN AFFECTIONATE AND
INDULGENT HUSBAND AND FATHER, AND
A FAITHFUL FRIEND, RESPECTED IN LIFE
DEEPLY LAMENTED IN DEATH, HE DEPARTED
THIS LIFE FEB. 5TH, 1810, AGED 68 YEARS

THIS SMALL TRIBUTE OF GRATEFUL AFFECTION
DUE BY HIS AFFLICTED WIFE AND DAUGHTER"

In 1812 during the Napoleonic Wars, President Madison declared himself the enemy of England at the same time casting envious eyes on Canada. Once again the Richelieu was to witness vast military expeditions, involving many fierce encounters.

Formidable actions took place in the Niagara district and along the shores of Upper Canada and in the course of three campaigns the American forces endeavoured to reach Montreal and Quebec. General Dearborn set forth via Lake Champlain, but this time instead of proceeding down the too well defended Richelieu River, he took the overland route attacking Lacolle and then pushing up in the direction of St. Regis where the boundary was not guarded. But as deSalaberry had foreseen this move, and the few positions he held between the Richelieu and the St. Lawrence were sufficiently strong to arrest the advance, Dearborn returned to Albany.

In the summer of 1813 two American armies were to effect a junction at Lake St. Louis in view of a combined attack on Montreal. Wilkinson's army was coming from Lake Ontario whilst Hamilton's forces were proceeding by way of the Richelieu. At the very outset Hamilton was held up on Lake Champlain by the British fleet, which brought the campaign to a halt for the remainder of the summer. In the fall Hamilton chose the overland route and, reaching Lacolle, cut across to the Chateauguay River. DeSalaberry was prepared for him, and blocked his passage with a small force, gaining a memorable victory which earned him the surname of "Canadian Leonidas". Wilkinson, in his turn, was defeated at Chrysler's farm.

The chief feature of the 1814 campaign in the Richelieu district was the fiasco of a Canadian counter-invasion. In this instance Governor Prevost set forth in September and proceeded up the Richelieu with ten thousand men to besiege Plattsburg. But when he reached the spot, he failed to take advantage of favorable weather conditions and gave up the attempt. The

British and Americans entered into peace negotiations which resulted in the Treaty of Ghent.

This treaty provided for the mutual restoration of all occupied territory, special commissions for the settlement of outstanding questions and the end of a war which many historians consider to have been a terrible blunder. The Rush-Bagot agreement of 1817 within three years after the War, limiting the armaments of the Great Lakes and on Lake Champlain to what are little more than revenue cutters, is an indication of the practical common-sense of the people of each country. This inaugurated the long era of unbroken peace along several thousand miles of undefended boundary which is an example to the world.

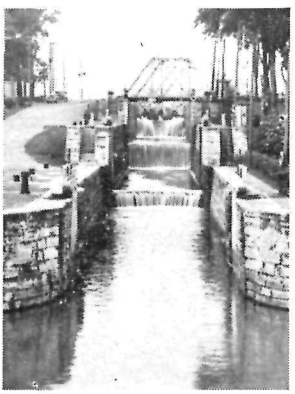
Packet boat used for passenger service in early New York canals.

V

CANALIZATION OF RICHELIEU RIVER

A WATERWAY FROM MONTREAL TO NEW YORK.

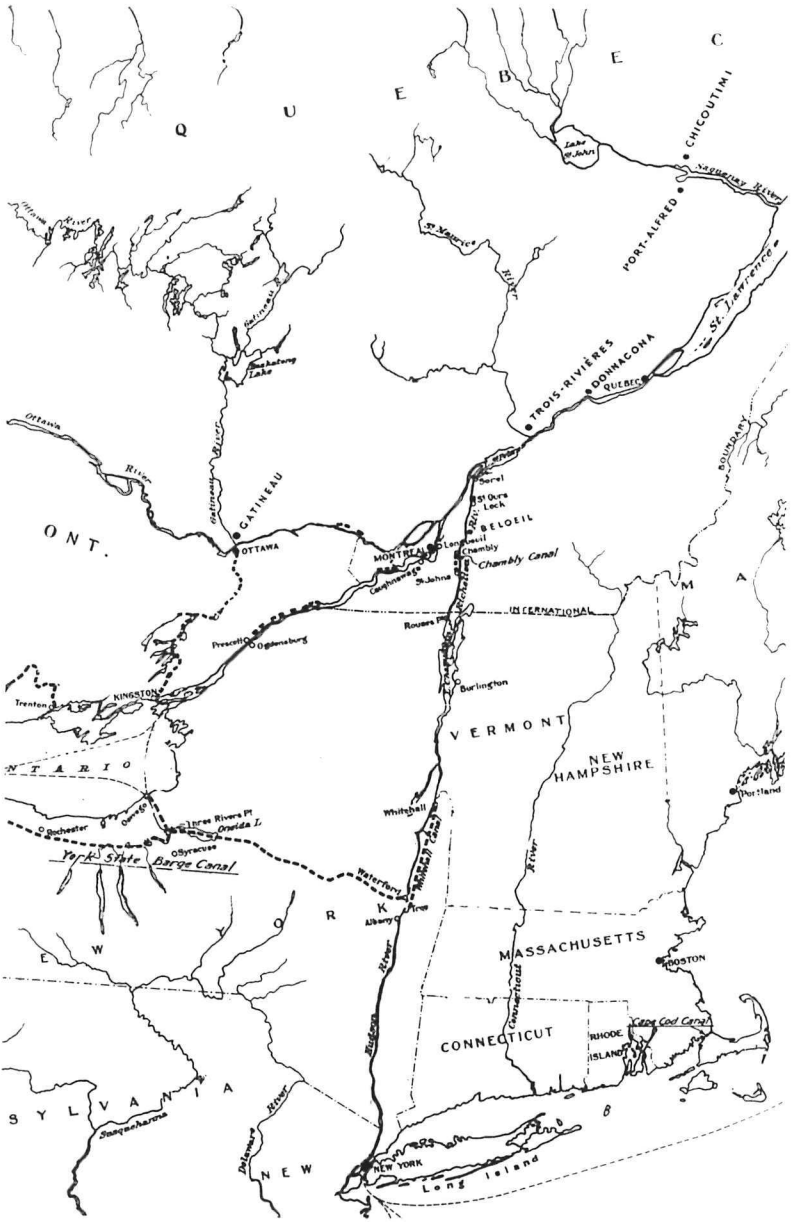
EARLY IMPROVEMENTS UNDER THE FRENCH ADMINISTRATION.



As long as navigation on the Richelieu was limited to the light canoes of the raider, hunter and explorer, the Chambly Rapids, the only insuperable obstacle, were avoided by a relatively easy portage. The construction and supplying of the defence forts along the Richelieu, however, necessitated the use of a larger boats and consequently increased the natural obstacles to navigation.

In 1666 transportation between Sorel and Chambly was made by large scows (barques), barges and canoes. At St. Ours, 14 miles up the river, the large scows being unable to proceed further, due to a chain of rocks at this point, their cargo was transferred into barges and canoes, which were able to avoid these rocks and proceed a distance of 32 miles as far as Chambly. At Chambly it was necessary to unload again and transport the goods by land through a dense forest up to Fort Ste. Therese, 5 miles above Fort Chambly.

The two obstacles to navigation on the Richelieu River in 1666 were, therefore, a chain of rocks at St. Ours and the swift rapids at Chambly. The French military authorities attacked first the most formidable obstacle, the Chambly rapids, by constructing a "portage" road around them. This



Map of the international waterway between Canada and the United States of which the Richelieu is the essential link.

"portage" road, built on the actual site of the Canal and for the same purposes, namely to facilitate movements, between the St. Lawrence and Lake Champlain, is really the first outline of the Chambly Canal.

In 1745 the French military authorities attacked the second obstacle to navigation by removing the chain of rocks at St. Ours. This work was really the first dredging done in the Richelieu River or in Canada. Today nearly 300 years after the construction of the "portage" road, similar work is being carried on by more modern methods; a canal at Chambly Rapids, and the dredging and improvement of the channel.

If one may believe a Memoir written in that time, navigation in 1758 was relatively easy: " . . . . Boats take two days from Sorel to Chambly; they carry 150 quintals; they are managed by four men. The portage at Chambly is done by carts carrying 6 quintals each. The contract continues from Fort St. Johns to Fort Carillon."

UNDER THE BRITISH GOVERNMENT.

The new regime was at first chiefly interested in St. Lawrence River navigation. The necessity, however, of protecting the frontier after the American invasion of 1775, directed attention to the importance of the Richelieu route and the urgent necessity of improving this waterway. The defence programme of Lake Champlain included the improvements to existing forts and the creation of a war fleet above St. Johns. The "portage" road, which had been so useful became inadequate for the urgent needs. For example, in 1776 two large "barques" were taken to pieces at Chambly and transported by land to St. Johns, where they were re-assembled and set afloat. A 189 ton boat from Quebec was brought to St. Johns and reconstructed the same way.

On account of many similar incidents, a canal from Chambly to St. Johns appeared the only way to overcome the

problem of navigation on the Richelieu, created by the Chambly Rapids. As early as 1775, Silas Deane, a native of Connecticut, who later resided in England, suggested such a Canal to General Haldimand. In 1787 he repeated the same suggestion to Lord Dorchester.

The necessity of opening a water communication between Hudson River and Lake Champlain to replace the existing "portages" was discussed in the same period by the Americans. It seems that prominent people, both in Canada and in the United States, were already foreseeing the future importance of a waterway between the St. Lawrence and the Hudson Rivers.

In 1791 Adam Lymburner, who later advocated the construction of the Lachine Canal, suggested the Chambly Canal to facilitate the shipment of goods from New York and Vermont to Quebec; he advocated a Canal about 6 miles in length, having a depth of 7 feet.

In the United States private interests had begun to improve natural waterways. General Philip Schuyler in 1792 organized two Companies for the purpose of connecting by two canals, the Hudson River with Lake Ontario and with Lake Champlain. The first canal was started at once and in 1796, with State aid, was opened between Schenectady and Seneca Falls. (This 4 feet Erie Canal reached Buffalo — 364 miles — in 1825; the Oswego Canal was opened in 1828). In 1793 a contract was given for the second canal; but not until 1817 was a serious attempt made to build it; this Champlain Canal, navigable in the autumn of 1819, was completed in 1823. (Between 1812 and 1820 New York State had acquired these charters and assumed the huge undertakings).

The digging of the Erie Canal by thousands of husky Irishmen gave a prominence to the City of New York which has never been seriously challenged and stimulated the development of the whole country.

DIMENSIONS OF THE ORIGINAL CHAMPLAIN CANAL (1823)

Length of Canal	66 miles
Number of Locks	20
Water on sills	4 feet
Breadth of Canal at bottom	26 feet
Breadth of Canal at surface	40 feet
Dimensions of locks	90 feet x 15 feet
Max. size of boats	78 feet x 14 feet
Max. draft of boats	3½ feet
Max. tonnage of boats	75 tons

CONSTRUCTION OF CHAMBLY CANAL

THE COMPANY OF PROPRIETORS OF THE CHAMBLY CANAL

The incorporation of Schuyler's Company in 1792 for the construction of the Champlain Canal, provided a new argument to those advocating the construction of a canal at Chambly. In 1796 Ira Allen urged the construction of the Canal on political grounds, intimating that the friendliness of the State of Vermont to Britain would thereby be strengthened. Montreal merchants urged the construction of this Canal to help trade and commerce between the two countries; military and naval authorities in turn pointed to the unstable border. All these arguments were freely discussed by the Parliament of Lower Canada, especially in the years immediately following the close of the war of 1812, and when the construction of the Champlain Canal was commenced in 1817.

Consequently on April 1st, 1818, a bill was passed by the Parliament of Lower Canada, granting to a Company the right of forming a Canal so as to connect the navigation of the lake with the Basin at Chambly and avoid the Chambly Rapids.

The preamble in the quaint spelling of the period is as follows:

"C. 18 ANNO QUINQUAGESIMO OCTAVO GEO. III A.D. 1818
CAP XVIII

"An Act for making and maintening a navigable Canal from, at or near the Town of St. John, upon the River Sorel or Richelieu, through the Barony of Longueuil and the Seigneurie, to terminate at the Bafin of Chambly.

(1ft April 1818).

Whereas the River Sorel, or Richelieu, in the Diftrict of Montreal, is in many parts not navigable for boats or veffels by reafon of the rapids, and other obftructions therein; And whereas a Canal from, at or near the town of Saint John to the Bafin at Chambly, upon the faid River, would be of great

public advantage; will afford a more eafy, cheap and advantageous conveyance for all goods, wares and commodities whatfoever, and generally increafe the trade and commerce of this Province and in other refpects be of a great public utility. And whereas the persons herein-after named, are defirous at their own cofts and charges, to make and maintain the faid intended Canal, but cannot effect the fame without the aid and authority of the Provincial Parliament;

Wherefore . . . may it pleafe your Majesty that it may be enacted, and be it enacted by the King's moft excellent Majefty, by and with the advife and confent of the Legiflative Council and affembly of the Province of Lower Canada . . . . that it fhall and may be lawful for THOMAS LEE, JACQUES VOYER, PIERRE EDOUARD DEFBARATS, JOHN GOUDIE, FRANCOIS LANGUEDOC, JOHN WHITE AND JAMES M'DOUALL to caufe books of fufscription to be opened for fhares in the faid undertaking . . . . The said THOMAS LEE . . . . together with sufscribers . . . . fhall be, and are hereby united into a Company . . . by the name of THE COMPANY OF PROPRIETORS OF THE CHAMBLY CANAL' . . . .

This bill (nearly 50 pages) gave every detail pertaining to the rules of the Company and the construction and regulations of the Canal. It prescribed that the locks should not be less than 20 feet in breadth, and of depth sufficient to admit vessels drawing five feet of water. The capital of the Company was limited to £45,000 ($180,000), and the term within which the Canal was to be completed was limited to seven years. It was also enacted that the first General Assembly for putting this Act in execution, shall be held at Chambly.

The Company ordered the necessary surveys, and prepared three designs, with three different dimensions for a canal and its locks, and in 1821 submitted to Parliament that the cost of even the smallest of these three canals would far exceed the capital authorized to be raised for the purpose. They therefore prayed for authority to increase the capital.

The matter appears to have been thoroughly considered by a Parliamentary Committee, who obtained also the evidence of several naval and military officers. The Committee reported that the breadth of the locks should not be less than 30 feet with 5 feet depth of water and expressed the opinion that the civil and military authorities should be empowered to take up such shares or portions of shares of the said canal as might be left unsold, and that a fund should be appropriated for that purpose.

In 1823 the works not having been yet commenced, it became evident that the Company would forfeit its rights under that clause in their Act, which prescribed that the canal should be completed within seven years.

Horse-drawn Pulpwood Barges in Canal (1914)

COMMISSIONERS OF THE CHAMBLY CANAL

On March 22, 1823, a new Act was therefore passed by the Parliament of Lower Canada:

C. 41 ANNO TERTIO GEORGII IV
A. D. 1823, P. 440
C A P XLI

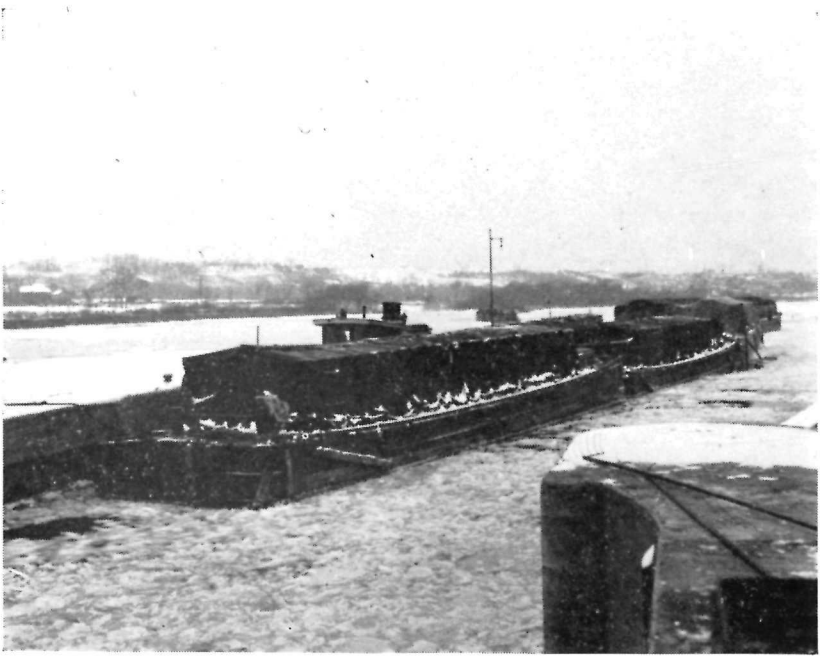
"An Act to grant an Aid to His Majesty, for the "purpofe of making a Navigable Canal, from or near "the Town of Saint John to the Bafin de Chambly, "upon the River Sorel or Richelieu.".

(22nd March, 1823)

This Act provided for the appointment of Commissioners "to carry into execution and fuperintendent the works neceffary to make the faid Canal", in the event that the Company of Proprietors shall forfeit its rights. This Act appropriated £50,000 ($200,000) for the construction of the Canal, and fixed the breadth of the locks at 20 feet, with a depth of five feet. The Commissioners were authorized to reimburse the Company the "monies by them expended, which monies the faid Commiffioners may find to have been neceffarily and ufefully expended for the opening of the said intended Canal." This Act stipulated that "the faid intended Canal fhall not be commenced or begun until the Canal actually in progrefs and making between La Chine and the Port of Montreal be finifhed as far as the faid port." The delays were a source of disappointment to the merchants of the Province of Quebec, and were the cause of a petition to the Legislature in 1826, praying that the Canal might be commenced immediately; but nothing was done in the matter until 1829, when the Commissioners were appointed in conformity with the Act. These Commissioners were charged with the management, both of the works at St. Ours and those of the Chambly Canal.

Immediately on their appointment, the Commissioners ordered the necessary surveys for the canal and, at the same time, an examination of the River between Chambly and St. Ours. Mr. Fleming, C.E., in charge of the river survey, reported that there were two modes of improving it: (1) raising the water by means of a dam; (2) by dredging its bed.

Upon Mr. Fleming's recommendation, the Commissioners adopted the latter plan, and continued for two years, viz: during 1830 and 1831—to employ men by the day in clearing the boulders and large stones from the bed of the river from the present site of the dam to Chambly, in preparation for the completion of the channel by the use of the dredge. The original appropriation of the Legislature, under which the



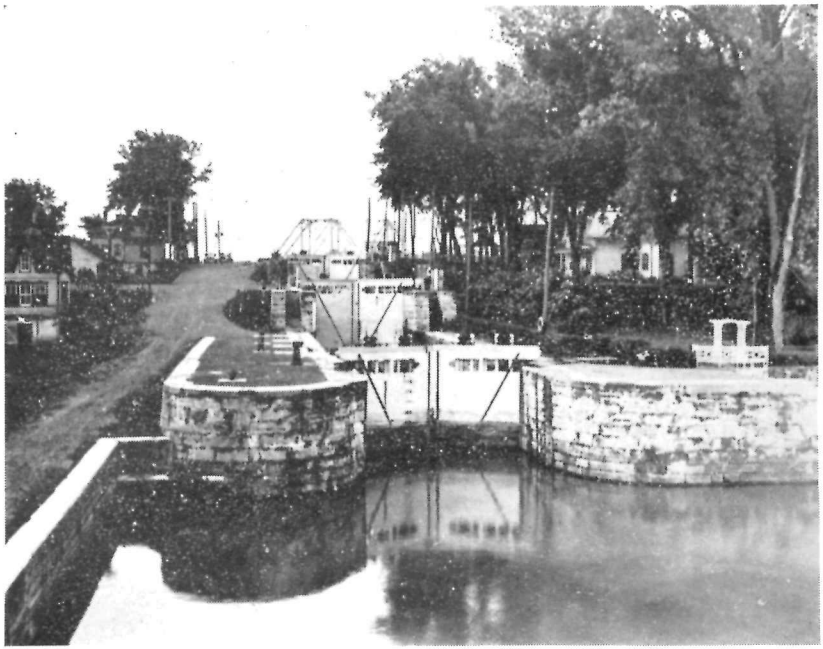
Newsprint paper barges enroute from Canada to New York, on Champlain Canal near Fort Edward, N.Y., in autumn of 1927.

preliminary works were carried on, was £7,950 ($31,800) and although at the close of the year 1831, there was still a balance of £4,000 ($16,000) the works were suspended.

On the 1st of October 1831, the construction of the CHAMBLY CANAL was commenced, £60,000 ($240,000) having been voted to complete it. The original estimate was £50,000. Captain Melhuish of the Royal Engineers, to whom the project was referred, considered that amount as much too low, and it was accordingly raised by him to £96,745. Nevertheless the Commissioners entrusted with the management rejected his opinion and let the work for £46,218 ($184,872).

In 1833 the Commissioners obtained authority to increase the size of the locks from 100 x 20 to 120 feet in length by 24 feet in breadth. The work had been undertaken by the contractors at very low prices, and much trouble and confusion ensued. The commissioners, from time to time, made some advances to the Contractors, but to no purpose; and in the autumn of 1835 the works were entirely suspended. The Canal, however, was in such a state of forwardness, that small vessels could come from Lake Champlain to Chambly, and could have passed beyond, if the locks at this village had been finished.

The expressive word "bottle-neck" had not yet been heard of nevertheless the solution of the difficulties at St. Ours and at Chambly was the problem which Mr. Hopkins attacked, on his appointment in March 1835 as the Engineer of the Chambly Canal. He commenced by revising the plans of the works at St. Ours; he advised the abandonment of the project of deepening the river and recommended the construction of a dam, with a cut-stone lock, at a point about 33 chains above the large island at St. Ours. The Commissioners approving his suggestion, received tenders and entering into a provisional contract for the execution of the work, applied to Parliament for an additional grant of £9,500 ($38,000) in addition to the unexpended balance of £4,000 ($16,000).



View of locks 1, 2 & 3 (closed) at the entrance to the Chambly Canal, looking south.

Same locks opened.

Upon Mr. Hopkin's recommendation, the Commissioners also reported to the Government the state of the works at Chambly, and stated that the £50,000 originally appropriated, together with a subsequent appropriation of £16,000 ($64,000) had been all expended; and that a further sum of £28,000 ($112,000) was required to finish the Canal.

A bill granting these sums for St. Ours and Chambly, was passed through both Houses, in the Session 1835-36 but did not receive the Royal Sanction.

In the disturbed years of 1836-37-38 and 39 the works at Chambly were only maintained by means of small sums of money advanced to the Commissioners, in anticipation of future grants.

In 1840 the Commissioners having been authorized to borrow a sum of £35,000 ($140,000), work was fully resumed: but owing to further difficulties with the Contractors very little progress was made.

In 1841, after the Union of the Provinces, the Department of Public Works (then called the Board of Works) was formed and at once assumed charge of the canal. Immediate steps were taken to complete it, and on the 17th of November 1843, the Chambly Canal was opened throughout.

The same Department assumed also the charge of the works at St. Ours; it caused new surveys to be made and approved the plan of a lock and dam, but selected a different location from that proposed by Mr. Hopkins. Construction began in 1844 and after some interruption from the failure of the first contractors, was completed in the middle of September 1849.

Irregularities in the excavation of the Chambly Canal were remedied during the winter of 1850 and by raising the banks, during the ensuing summer, a navigable depth of seven feet of water was obtained. In 1851 the walls of the St. Ours Lock were raised five feet higher, to overcome the flood difficulties of the spring of 1849 when, for 26 days, high water overflowed the coping of this lock.

DIMENSIONS OF CHAMBLY CANAL.

1831-1843—Canal built to provide 6½ feet depth as at present.

Length of Canal .. ..11.78 statute miles
Number of locks 9

Dimensions of locks—†
Lift Locks Nos. 1 to 8 .. ..
Width, from 23 feet, 3 in. to 24 ft. 4 in.
Length, from 126 ft. to 120 ft. 6 in.
Guard lock No. 9 at St. Johns .. .. 120 ft .7 in. by 23 ft. 7 in
Total rise or lockage .. .. 80 feet
Depth of water on sills (normally) .. .. 6 feet 6 inches
Breadth of canal at bottom .. .. 36 feet
Breadth of canal at surface of water .. 60 feet
Minimum overhead clearance .. .. .. 120 feet (Telephone wires)

This canal succeeds the 32 miles of navigable water between St. Ours lock and Chambly Basin. The canal overcomes the rapids between Chambly and St. Johns.

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† The lock of minimum usable length on this system is No. 2 with an inside clearance of 111 feet 5 inches.

The busy port of Sorel.

DIMENSIONS OF ST. OURS LOCK

Length of Canal	⅛ mile
Number of locks	1
Dimensions of lock	200 feet by 45 feet
Total rise, or lockage	5 feet
Depth of water on sills	7 feet
Length of dam in eastern channel	300 feet
Length of dam in western channel	690 feet

Thus was completed an inland waterway connecting the St. Lawrence River with the Hudson River via the Richelieu River, the Chambly and Champlain Canals and with the Great Lakes via the Erie Canal. Of these three Canals the complementary "Chambly", then of comparable importance, was certainly the most economical because larger vessels were able to use it. Its dimensions and facilities are the same today as they were one hundred years ago, if one ignores the ravages of time; the two other canals have been improved on many occasions and have been modernized in accordance with the progress of the age, as indeed have been the lock at St. Ours and all the principal Canadian canals.

PROJECTED IMPROVEMENTS OF THE CHAMPLAIN WATERWAY, REBUILDING OF THE "NEW YORK" STATE CANALS", IMPROVEMENTS ON THE RICHELIEU RIVER

EARLY PROJECTS ON CANADIAN SIDE.

The construction of the Chambly Canal was scarcely finished when earnest entreaties were made to the Government to improve this waterway between St. Lawrence River and Lake Champlain, by the building of a Canal of dimensions similar to those of the Welland and St. Lawrence Canals which were just completed.

As early as 1847 John Young, the progenitor of the St Lawrence Ship Canal and of the Port of Montreal, L. H.

Aerial view of the city of Sorel, showing the Richelieu and St Lawrence Rivers.

Holton and other leading merchants of the City of Montreal, memorialized His Excellency the Earl of Elgin, then Governor of Canada, that it was their intention to apply to the Legislature for a Charter to construct a canal to connect the St. Lawrence with Lake Champlain, near St. Johns, and they prayed, in the meantime, that His Excellency-in-Council would order a survey of the proposed work.

His Excellency having granted the petition, four prominent Civil Engineers were instructed to make a complete study of the possibilities and reports were duly submitted by Messrs. Mills in 1848, Jarvis in 1855, Gamble in 1855, Swift in 1855 and Gamble again in 1856.

The various projects considered are briefly described as follows:

(a) Enlargement of existing route up Richelieu River entailing deepening of river channels, construction of a new lock at St. Ours and the enlargement of the Chambly Canal.

(b) Canal from Longueuil, opposite Montreal on the St. Lawrence River, to St. Johns on the Richelieu River. Total length of canal 28.5 miles. Rise in lockage from Longueuil to St. Johns—74 feet. Number of locks—6 lift and 1 guard.

(c) Champlain level canal from Caughnawaga, 10 miles above Montreal on the St. Lawrence River to St. Johns. Total length of canal 32.5 miles. Rise in lockage from Caughnawaga to St. Johns — 27 feet. Number of locks 2 lift and 1 guard.

(d) Summit level canal from Caughnawaga to St. Johns with a summit level 33 feet above Lake Champlain, supplied with water through a feeder canal 16 miles long from above the sixth lock on the Beauharnois Canal. Total length of canal 25.5 miles. Rise in lockage from Caughnawaga to summit — 60 feet. Drop in lockage from summit to St. Johns — 33 feet. Number of locks — 8 lift and 1 guard.

Aerial view of the City of St. Johns, showing the end of the Chambly Canal.

(e) Same as (d) but with feeder canal from Beauharnois Canal made navigable to enable vessels to and from points on Lake St. Francis and above to proceed to Lake Champlain without descending to Lake St. Louis. The connection from Caughnawaga would be the same as (d). The canal from the junction with the Beauharnois Canal to St. Johns would be as follows: Total length of canal — 37.5 miles. Drop in lockage from Beauharnois Canal to St. Johns— 34 feet. Number of locks—3 lift.

(f) Canal from a point 6 miles above the lower end of Lake St. Francis on the St. Lawrence River to a point 3.5 miles south of St. Johns on the Richelieu River. The country traversed by this canal was considered unfavorable to the construction of a canal. Total length of canal — 56 miles. Drop in lockage from Lake St. Francis to Richelieu River — 57 feet.

With the exception of Mr. Jarvis, who favoured project (e) all the engineers mentioned above recommended a canal from Caughnawaga to St. Johns. The depth of the proposed canal was 10 feet with locks 230 feet long and 45 feet wide. The question was agitated in Montreal for some years but no action was taken by the Government on the recommendations.

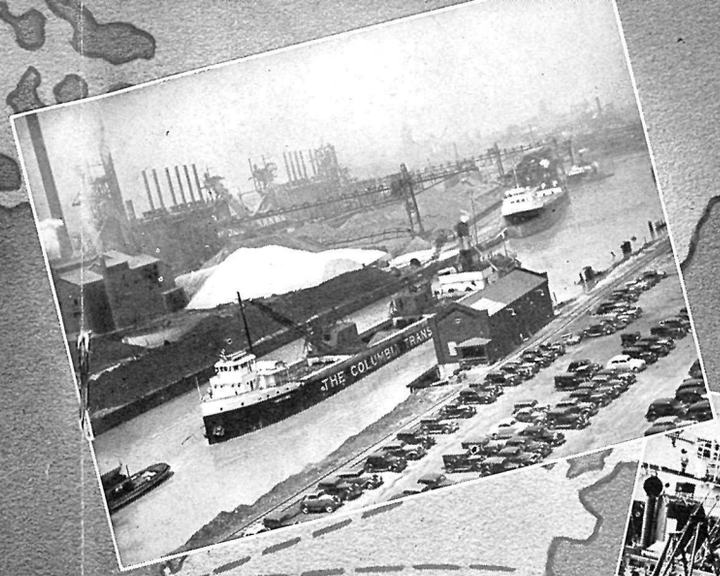
All these discussions postponed the necessary repairs and improvements to the Chambly Canal. After its completion in 1843 the work was found to have been executed in a very imperfect manner. The side walls of the locks were too thin and of poor material. The necessity of reconstructing all the locks was frequently urged between the years 1851 and 1857; but, as above noted, the Government had under consideration at that time the expediency of either enlarging the canal or closing it and adopting a new route altogether. At length in 1858 the Government laid aside all these projects and the necessary repairs were executed.

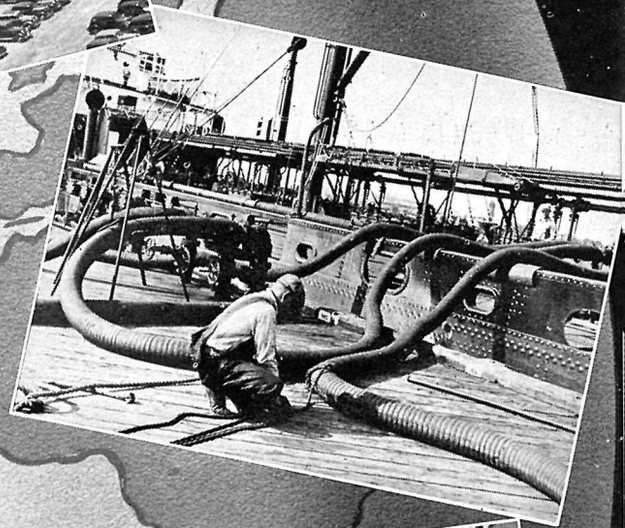
In 1870 a projected Caughnawaga Canal was again put forward and efforts towards its realization were nearly

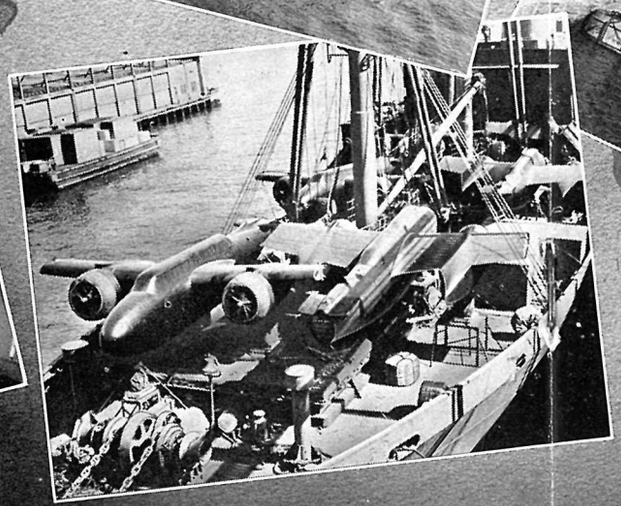
THE BATTLE OF TRANSPORTATION

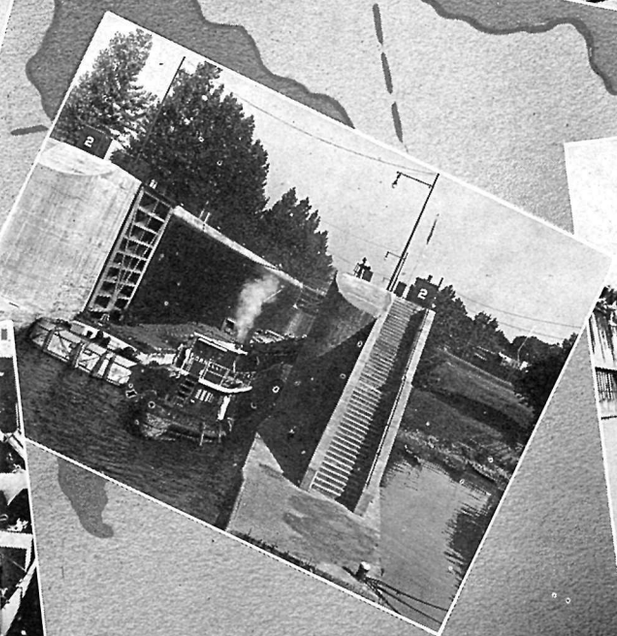
No warships, these... but they are ships of war. It takes all kinds of craft to keep men and materials flowing in a steady stream to our far-flung battle fronts. On the home front, too, ships are playing a vital role in the Battle of Transportation.

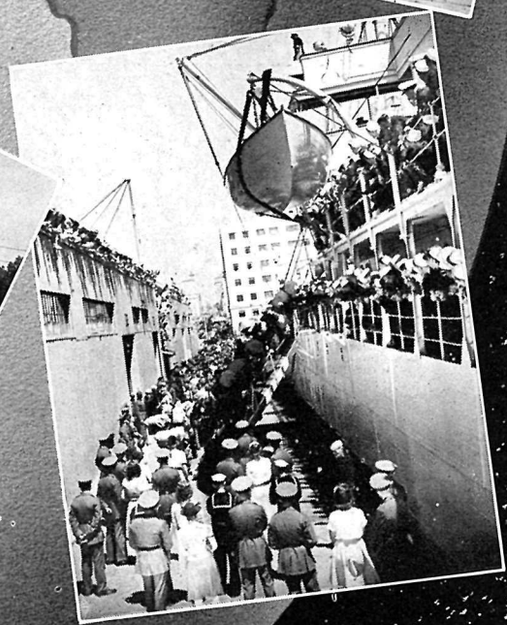
Courtesy: Canadian Johns-Manville Co. Ltd.











successful since "An Act of the last Session (33 Vic. Cap. 47) authorizes the incorporation of a Company for the construction of a Ship Canal, to connect the waters of Lake Champlain and the River St. Lawrence at a point on Lake St. Louis, and to terminate at such point on the River Richelieu, Lake Champlain, or the Chambly Canal, as may be found best suited for the public interest, and as may be approved by His Excellency-in-Council. The Government consenting thereto, the Company is further empowered to embody the whole or part of the Chambly Canal, on terms to be agreed upon, in the proposed new Ship Canal, and to increase the capacity of the Chambly Canal for that purpose. The Company is also authorized (subject to agreement with the Government) to improve the Richelieu River, and to enlarge the St. Ours lock and dam, so as to secure to the Richelieu River navigation

View of locks 1, 2 & 3 (open) at Chambly, looking north.

equal facility for the passage of vessels to that obtainable along the projected Canal.

THE CANAL COMMISSION (1870)

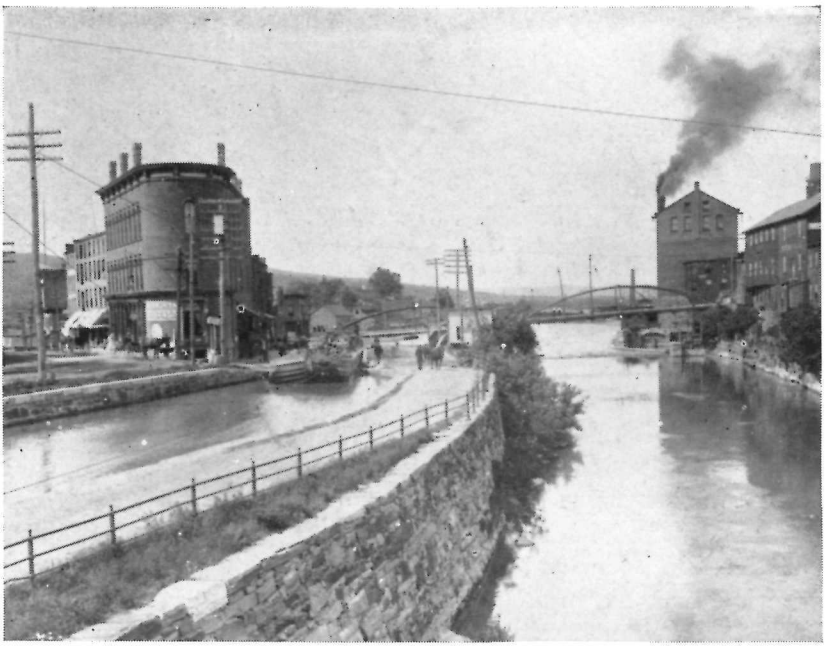
Before authorizing any canal projects, the Government decided to establish a more definite canal policy and accordingly on the 16th of September 1870 a Canal Commission was issued under the Great Seal of Canada, with the duty of making an investigation and study of the subject. The Commissioners were instructed to enquire and report upon the works and improvements necessary to make such a thorough and comprehensive improvement of the canal system of Canada, as might meet the growing traffic and commerce of the Dominion, and afford increased facilities for carrying to seaboard, through Canadian waters, the products of the Great Western Country.

The Commissioners were instructed to institute such an inquiry as would embrace the whole subject in all its bearings, as well from a commercial as from an engineering point of view and to inquire especially into 12 most important works and improvements, including:

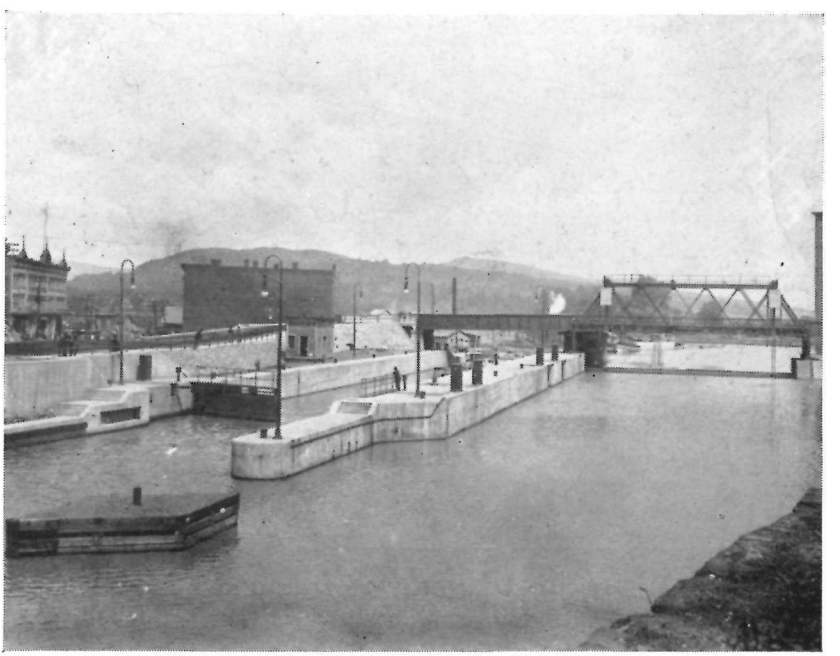
> "(7) The construction of a canal between the St. Lawrence at Caughnawaga and Lake Champlain.
>
> (8) The improvement of the River Richelieu and Lake Champlain line of canals."

On the 25th of November 1870 the Commissioners held their first sitting at Ottawa, and on the 24th of February following, presented a report, being a letter adressed to the Honorable Secretary of State, who laid it before Parliament, then in Session.

In their report the Commissioners distinguished the works required to improve and increase the facilities of inland navigation according to their relative importance and urgency, into four classes. The enlargement of the Chambly Canal was put in the first class; it was recommended that the locks of



View of old four feet draught barge Canal at Whitehall, N.Y.



Same view showing modern twelve feet draught Canal completed in 1918.

the Chambly Canal be "200 feet in length of chamber between the gates, and forty-five feet in width, having such draught over the mitre sills not exceeding nine feet, as the channel in the Richelieu will afford". No effect was given by the Parliament to that recommendation. The Commission refrained from offering any recommendation in regard to the construction of a Canal from the St. Lawrence River to Lake Champlain due to the fact that the Caughnawaga Ship Canal Company with a charter to construct such a canal was still in existence.

CREATION OF INTERNATIONAL DEEP WATERWAYS COMMISSION (1895)

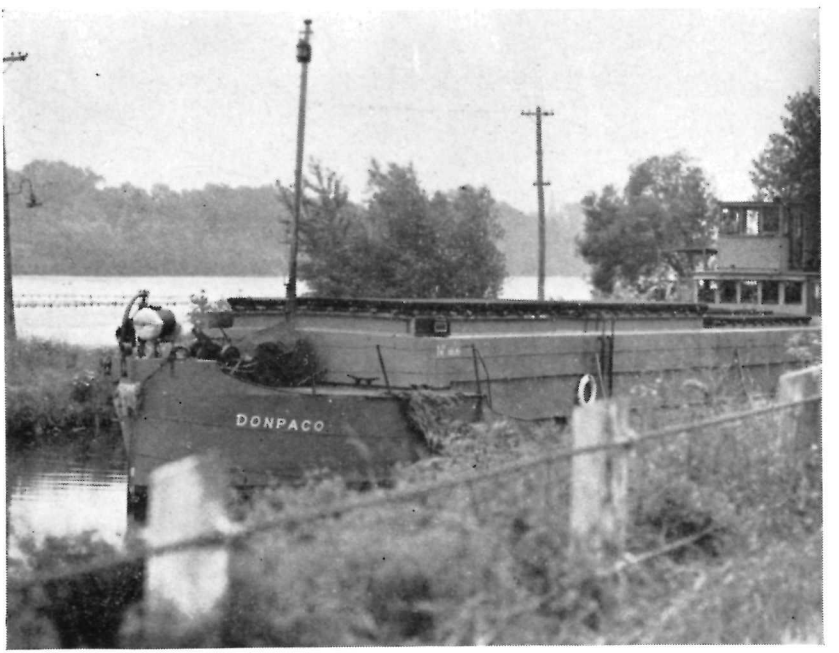
REBUILDING OF NEW YORK STATE CANALS.

From 1870 to 1900 various projects were proposed in the United States and Canada, for the building of a system of canals such as to give communication with the Great Lakes for ocean-going vessels. In 1895, both American and Canadian Governments created an International Commission to study these projects and report on the feasibility of such a system of canals. All these projects, including an elaborate report from an American Board of Engineers on Deep Waterways, were laid aside because of a report on the 13th of June 1897 by the Chief of Engineers of the U. S. Army against the undertaking in any form of such a Canal. He favoured rather the enlargement and improvement of the Erie Canal to a size sufficient to accommodate 1500 ton barges.

Acting on this report Theodore Roosevelt, then Governor of the State of New York created a Committee on Canals with the duty of making a thorough investigation and establishing for the State a more definite canal policy. The Committee submitted its report in January 1900 in which it was recommended that a system of canals be built suitable for barges of one-thousand ton capacity. The New York merchants were pressing for an improved waterway because of the gains

made by competing ports and after a strenuous fight finally on April 7, 1903, Governor Odell gave his official approval to the canal referendum measure which, when approved by the people at the election held in 1903, authorized the issuance of bonds to provide for construction for what is now known as the Barge Canal System.

That measure provided for the issuing of bonds of not to exceed $101,000,00 for the improvement of the Erie Canal, the Oswego Canal and the Champlain Canal. In 1909 a similar measure was approved for the issuing of bonds not to exceed $7,000,000 for the improvement of Cayuga and Seneca canals. And in the fall of 1911, the American people approved an Act making provision for issuing bonds to the amount of



M/V "Donpaco" passing St. Johns with 168 tons package freight, from New York for Montreal and Toronto, August 13th, 1943.

not exceed $19,800,000 for the purpose of furnishing proper terminals and facilities for Barge Canal traffic. This system of canals was opened throughout on the 15th of May, 1918.

Today we may witness this engineering achievement which provides every facility for water transport, a step as far in advance, considering the obsolete Canadian portion of the route, as would be found by drawing a comparison between the early roads and our modern highways of today. The facts are that we have been almost completely out-distanced not only by the improvements to U.S. inland and coastal waters but in competition with more modern and aggressive methods of transport.

A FEW FACTS ON THE NEW YORK STATE CANAL SYSTEM

The capital cost of the canals including terminals up to and including June 30, 1938 was $176,909,342.

The total canal mileage, not including connecting rivers and lakes is 525 miles.

These canals permit 12 feet navigation from the international boundary to New York and from Troy to the Great Lakes.

Locks are uniform in size having a minimum depth of 12 feet on mitre sills, with a width of 45 feet and a usable length of 300 feet.

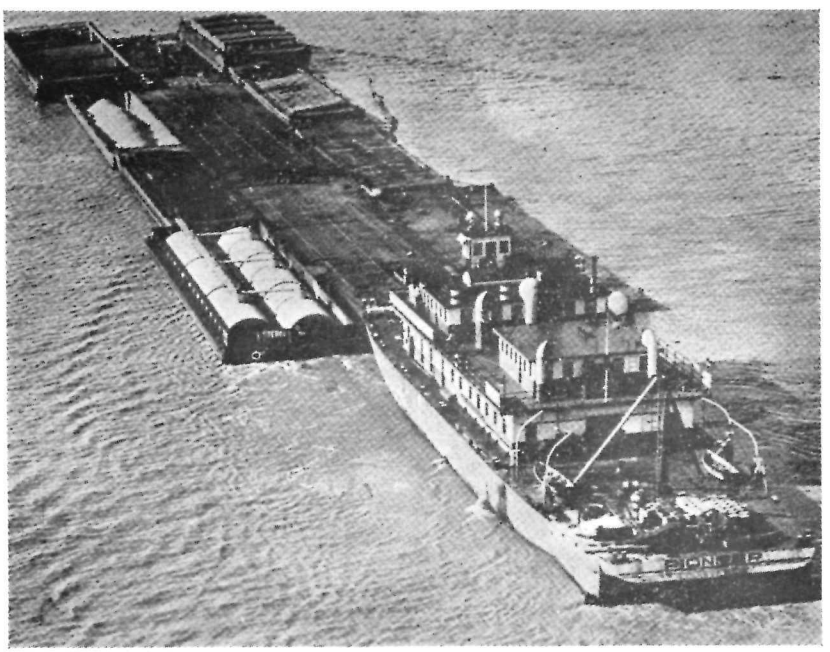
The width of the canal channel varies according to the section traversed and in canalized rivers and lakes such channel is 200 feet wide while in rock cuts in land lines a minimum bottom width of 94 feet is provided, and in earth sections the width of channel is 75 feet on the bottom.

Since 1935 the deepening and improving of the channel to 14 feet has been in progress between New York and Oswego. It is anticipated that this will be completed shortly, also the

raising of the overhead bridge clearance from 15.5 to 20 feet.

OTHER PROJECTED IMPROVEMENTS ON CANADIAN SIDE.

While this vast progressive programme was under way in the American part of the route nothing was being done to of improve the Canadian section. In 1898, however, by Act of Parliament, the Lake Champlain and St. Lawrence Ship Canal Company was incorporated, with powers to develop hydraulic power and construct a Canal from the St. Lawrence River in the vicinity of Longueuil to some point on the Chambly Canal on the River Richelieu. This charter was

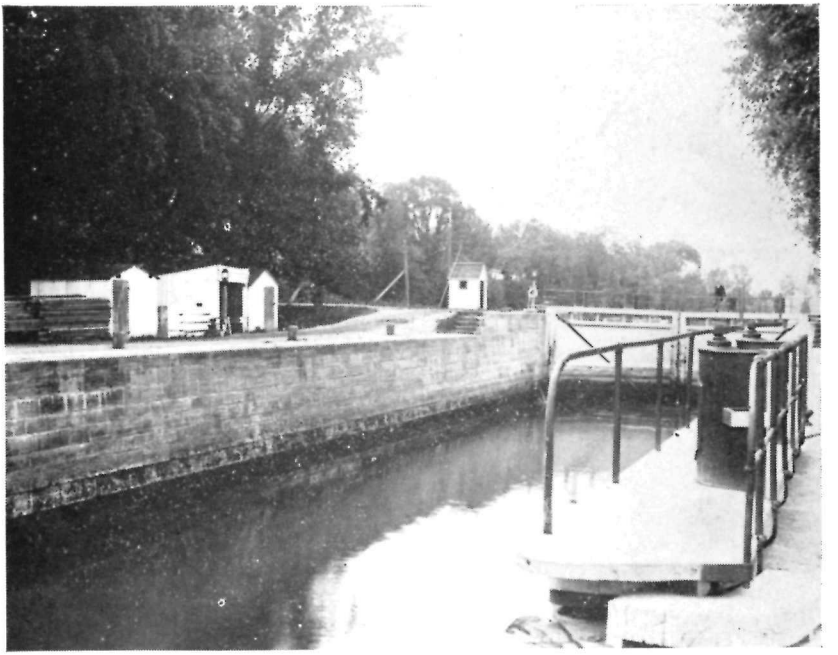


Petroleum and its products comprise about 50% of the tonnage on many U.S. canals, particularly on the N.Y. State barge canal. The cost of transportation in large tows is low, approaching rates common to Ocean and Great Lakes vessels.

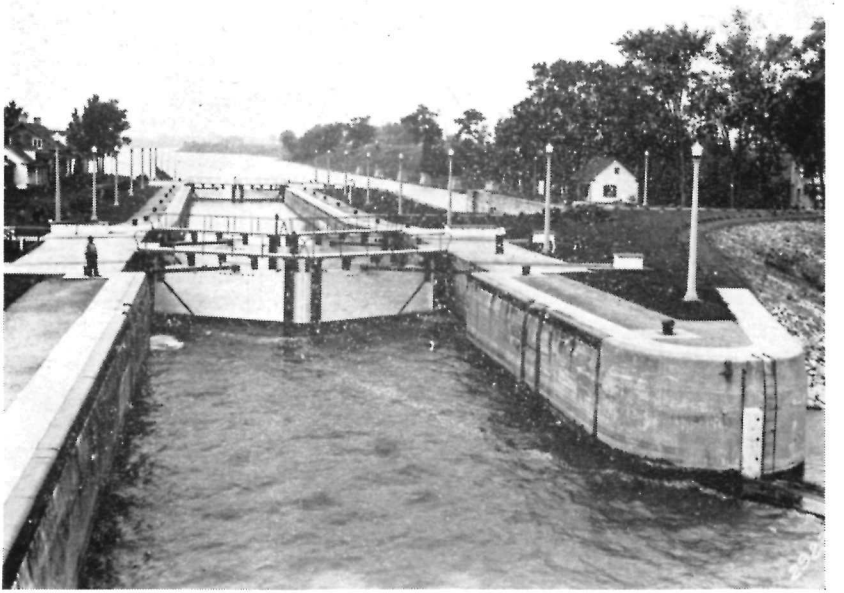
extended from time to time, the last extension being granted in 1911.

In 1906 the International Development Company, assignees of the Lake Champlain and St. Lawrence Ship Canal Company, applied to the International Waterways Commission for permission to construct regulating works in the Richelieu River. The Commission, in a joint report dated November 15, 1906, refused the application of the company and stated that the applicant should furnish conclusive evidence that private rights in the States of New York and Vermont would not be affected by the alteration of the lake levels as proposed and that the works should not be undertaken without the permission of the United States Secretary of War and should be operated under such regulations as he might direct.

In 1911 the above named Company submitted plans for approval to the Dominion Government. According to these plans the company proposed to construct a regulating dam across the river at Hospital Island about five miles north of the international boundary, with a lock at this point to pass navigation. Another dam was to be built at Fryers Island, from which point a canal 14 feet deep and 21.5 miles long left the river and crossed the country to the west to enter the St. Lawrence River at Longueuil below Victoria Bridge. Five locks were proposed to overcome the 74 foot difference in water level between the proposed regulated level of the Richelieu River at Fryers Island and the St. Lawrence River at Longueuil. A forebay was to be excavated from the navigation channel to a power house to be located on the shore of the Richelieu River below the upper dam of the Montreal Light Heat and Power Company. The head available at this site was estimated to be about 26 feet and the minimum power available at 17,000 horse-power. No action was taken by the Government on these plans and the Company's charter was allowed to lapse.



Old St. Ours Lock, 200 ft. long, 45 ft. wide, 7 ft. deep.



The new lock at St. Ours, 339 feet long, 45 feet wide,
12 feet deep.

FIRST WORKS ON THE RICHELIEU TOWARDS A 12-FOOT NAVIGATION. DREDGING 12 FEET BETWEEN SOREL AND ST. OURS. CONSTRUCTION OF ST. OURS LOCK FOR 12 FOOT NAVIGATION. CONSTRUCTION OF A CONTROL DAM AT FRYERS ISLAND, DREDGING BETWEEN ROUSES POINT AND ST. JOHNS.

The opening to navigation in 1918 of the improved New York State Canal System which constitutes the major part of the Richelieu River Route to and from Albany, New York and important centres in central and western New York, brought the attention of many prominent Canadians to the advantages of improving the Canadian section of that route so as to utilize to the maximum the facilities and advantages of the American sections, their ports, markets and industry.

One of the keenest supporters of this international route is, beyond doubt, the Honourable P. J. A. Cardin, M.P. for Richelieu-Verchères and former Minister in the Federal Cabinet. Since his first election in 1911 and his nomination as Minister in 1924, the Hon. Mr. Cardin has always stressed the importance of improving the Richelieu to the same degree as the American part of the route. He is responsible for all the improvements to this route in Canada during the last 30 years.

The efforts of Mr. Cardin appear to us today of major importance as in every improvement he had always in mind the creation of a 12' channel in the Richelieu. For this reason the Richelieu was deepened to 12' in 1928-30 between Sorel and St. Ours and in 1930 the construction of a new lock at St. Ours was commenced, on the same dimensions as those of the New York State Canal System.

This lock was completed in 1933, the dimensions being 339 feet long and 45 feet wide with a depth of 12 feet over the sills.

During these years Canada and the rest of the world were attacked by the great world depression which our forest industries were the first to feel. The lack of facilities on the Richelieu aggravated these conditions for industries requir-

ing low cost transportation. This is why in 1929 and 1930 the pulp and paper industry of eastern Ontario and of Quebec, the Canadian Lumbermen's Association, the cotton mills, chemical plants and interested Boards of Trade and Chambers of Commerce in the Province of Quebec, as well as the citizens of the Richelieu Valley, made strong representations by letter and also by personal interview to the Minister of Marine and Fisheries and the Minister of Railways and Canals, pointing out that although the general trade between Canada and the United States had grown to an enormous extent, the total tonnage carried on the Richelieu had dropped from a maximum of 750,000 tons a year to less than 100,000 tons. It was represented that particularly during this serious depression, low priced materials moving in either direction could not afford to

M/V "Donpaco" leaving Lock 9 northbound, August 13, 1943.

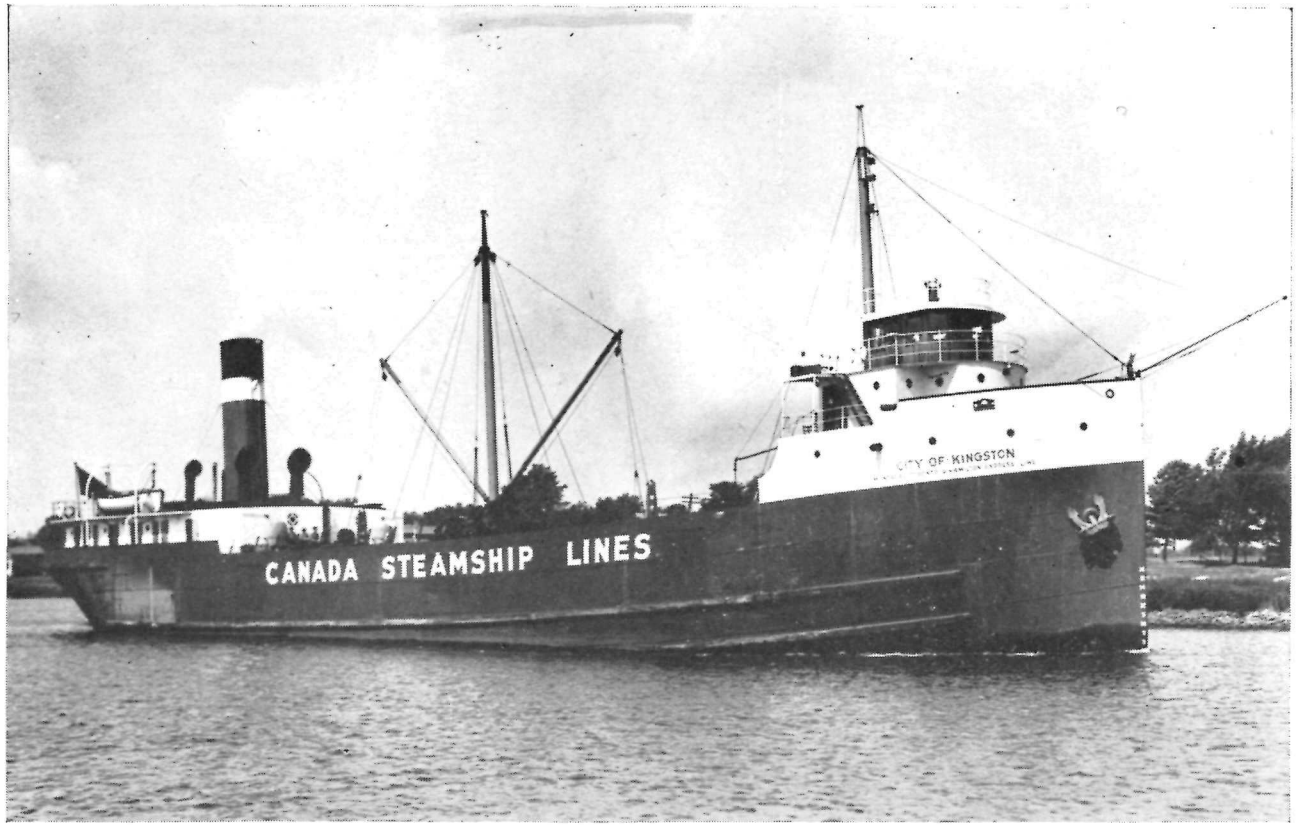
pay the rail rates established by war conditions and should be permitted to move freely by water between points on the Hudson and St. Lawrence Rivers and tributaries. This, however, was becoming increasingly difficult because of the old-fashioned facilities on the Canadian portion of the route, making the time in transit between New York and Three Rivers, for example, from 14 to 16 days, the use of the route being further restricted by the scarcity of small vessels.

These representations were favourably received and assurances were given that these improvements to the route would be "most seriously considered with a view of obtaining the desired result in the shortest possible delay."

On June 9th, 1930, Assistant Deputy Minister Geo. W. Yates, Ottawa, wrote a letter to the Secretary of La Chambre de Commerce of Trois Rivieres stating that the Department had been authorized to spend $600,000 for the construction of a new lock at St. Ours and that this work should be finished by the autumn of 1931, which lock would be similar to the one at Whitehall, N.Y., and that it would have 12' of water on the sills. It was also stated that the Department of Public works would dredge the river to a depth of 12' between Sorel and Chambly Basin and that a joint committee of engineers from the Department of Railways and Canals and the Department of Public Works were to study the cost of obtaining a navigable draught of 12' between Chambly Basin and Lake Champlain, which would include the construction of another canal at Chambly deeper than the existing canal.

In the meantime there was a change in Government and in the House of Commons' reports in the Montreal papers of September 13th 1930, appeared the following interesting and encouraging item:

> "Mr. Duranleau (Minister of Marine), in reply to a question from the new Deputy of St. Johns-



Type of modern package freight vessels 255 feet long and 43 feet wide employed between Montreal and ports on the Great Lakes, handling traffic to and from New York which must now be transhipped at Montreal or Sorel into small barges.

Iberville, Mr. Rheaume, said that he would recommend to the Government, the dredging of the Richelieu, also the damming of the River between Chambly and St. Johns. The necessary funds for this would be taken from the $20,000,000. Mr. Duranleau considered that the Richelieu should remain the natural route of communication between Lake Champlain and the St. Lawrence."

It was, therefore, currently believed that the Canadian Government realized that the obsolete locks at Chambly and the navigable depth of the Richelieu were nullifying to a large extent the great efforts of Canadian industry and American enterprise in connection with the development of business and shipping between the important cities and towns on the Ottawa, St. Lawrence and Richelieu Rivers, Lake Champlain and the Hudson River and was prepared to follow the example of our neighbours in the standardizing of their portion of this important route.

INTERNATIONAL JOINT COMMISSION—REPORT ON THE CHAMPLAIN WATERWAY (1936-37)

Following the discussion of a deep St. Lawrence Seaway project, via Lake Champlain, the American and Canadian Governments gave instruction to the International Joint Commission, created in 1909, to investigate the advisability of a deeper waterway from Montreal through Lake Champlain to connect with the Hudson River. The International Joint Commission instructed the engineers, designated by both Governments, to prepare a report to include estimates of the cost of a 27-foot ship channel (with depth of 30 feet for all lock sills) via all the proposed routes between the St. Lawrence River and the Hudson River, and also estimates of the cost of a 14-foot channel and a 12-foot channel on whatever route should be considered the most economical.

In its interim report the International Joint Commission declares:

"(a) that of these five possible routes the route "Montreal-Sorel-Richelieu River-Lake Champlain"—Champlain Canal —Hudson River, is the most practicable, the cheapest and most feasible route for a depth of 12, 14 or 27 feet."

The Commission was unable to recommend any improvements to the route on the evidence submitted

BUT DECLARES

""(c) that it is pertinent to note that the Government of Canada may decide to deepen the Richelieu River to 12

Control Dam across Richelieu River (1939) not yet in operation.

feet throughout its length from the international boundary down to the St. Lawrence. If that should be done, it would only be necessary for the Government of United States to carry out small dredging near Rouses' Point in order to ensure a 12-foot navigation from the St. Lawrence to the Hudson by this route."

CONSTRUCTION OF A DAM AT FRYERS ISLAND— DREDGING BETWEEN ST. JOHNS AND ROUSES' POINT, WORKS SUSPENDED ON ACCOUNT OF THE WAR

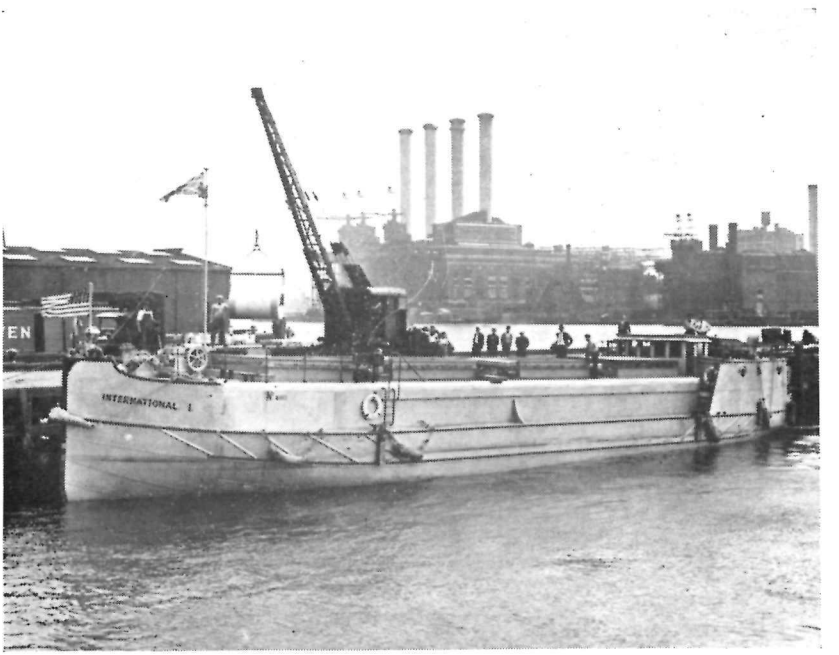
Due to this paragraph (c) of the report of the International Joint Commission, those who advocated a 12-foot navigation by way of the Richelieu River did not lose hope. Their confidence appeared to be justified when the Honorable Mr. Cardin presented successfully a measure appropriating funds to construct a control dam at Fryers Island on the Richelieu River, 8 miles below St. Johns. The construction of this dam, which had been proposed several times since 1900, as a means to regulate the water levels, was therefore undertaken in 1938 and completed in the same year.

The next year protection works on the river banks in view of the operation of this dam were commenced between Fryers Island and St. Johns. The same year, dredging on the navigation channel was commenced between St. Johns and Lake Champlain. All these works and the expropriations necessitated by the dam, were suspended in 1940 due to war conditions and have not been resumed since.

ORGANIZATION IN 1943 TOWARDS THE COMPLETION OF 12-FOOT NAVIGATION ON THE RICHELIEU RIVER.

In 1943 Presidents and Executives of many companies interested in the improvement of the Richelieu River resolved to take advantage of the Centenary of the Chambly Canal to

The M/V "Donpaco" passing bridge No. 9 southbound, August 17th, 1943.



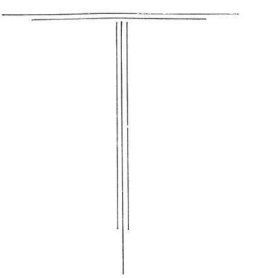
M/V International 1, in New York discharging newsprint paper from Gatineau, Que.

stress again the importance and urgency of the immediate completion of 12-foot navigation on the Richelieu River.

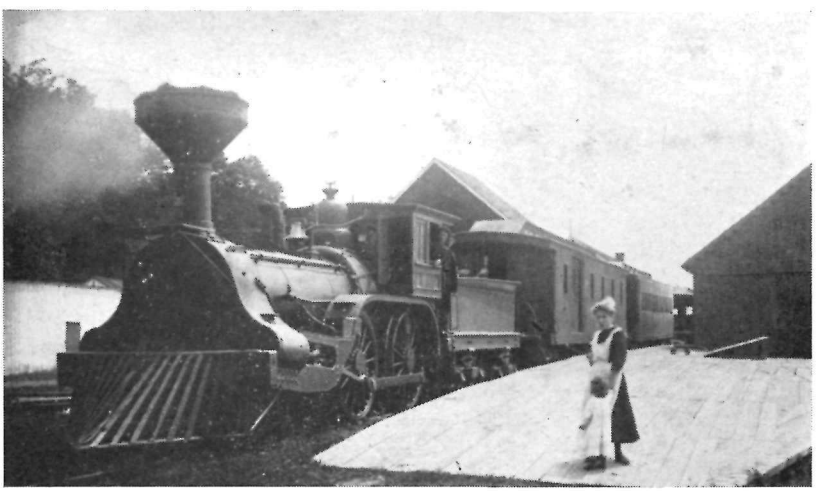
Furthermore in addition to the maintenance of the flow of war materials and other supplies by a safe inland waterway, this work would be of inestimable value in the rehabilitation and employment of thousands of war workers and fighting men.

The Executive Committee investigated the advisability of the immediate improvement of the Richelieu River on the scale adopted for the New York State Canal System. All existing surveys and reports were given careful consideration as were the actual traffic movement and the expanding trade between Canada and the United States and South America which, it is generally anticipated, will receive a new impetus after the war.

Such is the story of navigation on the Richelieu from the Indian era up to the present. As can readily be seen, this history is now at a critical chapter which may become the final chapter unless immediate action is taken. Further delays in the improvement of the Richelieu can only bring one result namely, the closing of this natural waterway, developed by the persistence of our fathers into a great artery of commerce.



The opening of Canada's first railway July 21st 1836, between Laprairie and St. Johns, provided Montreal with a "short cut" to the Richelieu river, and also avoided the St. Ours and Chambly rapids.



The Carillon and Grenville R.R. was opened in 1854 and continued in operation with the equipment shown above until the property was acquired by the C.N.R. in 1912.

It supplemented the canals on the Ottawa river.

VI

THE RICHELIEU, AN ESSENTIAL LINK IN A GREAT INLAND WATERWAY SYSTEM.

A NATIONAL ASSET IN WAR AND PEACE.

History shows that the wealth and the progress of a country is intimately linked with its system of communication. Upon the efficiency of such a system depends its exterior trade and, consequently, its position of pre-eminence among other nations. Furthermore, as no country is now self-sufficient, to be adequate, its transportation must be designed so as to connect economically the main cities and towns with the nearest ocean ports and international gateways.

The rapid development which followed the construction of railroads appealed to the Canadian people and gave way to an unlimited railway construction programme. The "Iron-Horse", originally an adjunct to navigation, had become supreme; and canals, although they had proven their value, were gradually forced into the background by the glamour, speed and superior organization of the newcomers. Canals thus placed at a distinct disadvantage appeared, in the eyes of the public, to be a worn-out method compared with the railroads, which, as a national institution, should be preserved at any cost from competition. The transportation problem became confused with the railway problem.

That a huge northern country like Canada could not have attained its present development without the aid of steam railways, should not detract from or cause the neglect of co-existent proven transport; all are necessary if Canada is to retain or improve its present world status. The facts are that notwithstanding all the modern methods of transport, inland water navigation remains not only the cheapest but it is also prompt, convenient and safe.

The railways themselves recognized this by engaging in lake (and ocean) vessel operation while their roads were under construction and have continued to do so; water and rail are complementary in our Canadian economy and so recognized by industry and by competent authorities.

In support of these contentions the following significant quotation is taken from page 652 of The Canada Year Book, 1940, issued by the Dominion Bureau of Statistics and published by authority of the Minister of Trade and Commerce:

> "Railway transportation, though essential in a country such as Canada, is nevertheless expensive for bulky and weighty commodities, and also for short distances where the cost of repeated handling amounts to more than actual transportation. For bulky freight, new enterprises have been either undertaken or are under consideration for improving water communication, such as the new and deeper Welland Canal, the deepening of the St. Lawrence canals and of the channel between Montreal and Quebec, and the development of the Hudson Bay route. For freight movement over moderate distances the motor truck, operating over the growing network of improved highways, is providing an increasing proportion of the service. For inaccessible areas remote from the railways, the aeroplane has established itself commercially and is a valuable addition to other transportation facilities."

The Sault Ste-Marie Canals, for example, less than two miles in length, carry a tonnage surpassing that of the great Suez and Panama. For years they have enabled distant western grain-fields to compete in world markets, their vast ore tonnage has empowered Canada and the United States to become the great arsenals and workshops of the United Nations.

To come nearer home the building of the Ottawa and Richelieu Canals permitted generations of lumber kings to enter and serve the rich markets of Albany and New York.

Canals benefit consumers in general, provide widespread employment, prevent monopoly and bring commerce and industry to our ports.

The opening of the Alaska Highway; the daily flights across the continent, the Atlantic and the Pacific; the vast and varied transport plans of the United States and the approaching economic problems, should however cause Canadians and their parliamentary representatives, to reconsider any accepted or static views and resolve to overhaul and complete any obsolete transport facilities.

M/V "Donpaco" nearing St. Johns on August 17, 1943 with 209 tons of newsprint paper for New York.

The 12 miles navigation of the Chambly Canal consumes 6 hours, compared with 12 hours navigation of the 63 miles Champlain Canal.

452 MILES MONTREAL TO NEW YORK VIA THE RICHELIEU VERSUS 1670 MILES BY SEA.

There are actually two inland waterways between Canada and the United States: the St. Lawrence Waterway and the Richelieu-Champlain waterway. The first with a controlling depth of 14 feet, connects Montreal and other St. Lawrence ports with the Great Lakes. The second one is the shortest way between Montreal and New York via the Richelieu River, Lake Champlain and Hudson River, a total distance of 452 miles. This waterway also connects with the Great Lakes via the Erie Canal. The normal depth of the "Champlain" waterway and the Erie Canal is 12 feet, with the exception of the "bottle neck" at Chambly where the depth is still 6½ feet as it was 100 years ago.

The United States have spent many millions of dollars to provide 12-foot navigation on the entire American section of this route; recently Canada has spent one and a half million dollars for the same purpose on the Canadian section by dredging to 12 feet the channel between Sorel and St. Ours, rebuilding the St. Ours lock for 12 feet navigation and building a control dam at Fryers Island. There has also been intermittent dredging to 12 feet in different sections of the river between St. Ours and the U.S. boundary.

DEPTH OF THE CHANNEL BETWEEN MONTREAL AND NEW YORK

From Montreal to Sorel	(46 miles)	35	feet
From Sorel to St. Ours	(14 miles)	12	feet
St. Ours lock	(⅛ mile)	12	feet
(x) St. Ours to Chambly	(32 miles)	6½	feet
Chambly Canal	(12 miles)	6½	feet
(x) St. Johns to Rouses Point	(22 miles)	6½	feet
Rouses Point to New York	(327 miles)	12	feet

(x) Intermittent dredging to 12 feet has been made in this section.

On account of a 66 miles incomplete section in Canadian territory the millions spent on modernising 386 miles of canals were absolutely of no benefit to Canadian international trade.

Actually the large industries on the St. Lawrence and the Richelieu Rivers, extensively engaged in war production, based on low cost raw materials from the United States, would not now be served by water were it not for the cargo space available on the return trips of the fast little diesel boats of the Donnacona and the International Paper Companies, serving New York with newsprint paper.

The unfortunate "hold-up" in the completion of the modernization of the Richelieu is much more serious than is generally admitted. It is also a contributing factor in the building up of competitive ports and routes. For example, the improved facilities and deeper water in and out of Oswego, N.Y., have already diverted hundreds of thousands of tons from the Port of Sorel and the Richelieu route, during a period when it is so essential that water transport use the shortest routes.

The dimensions of the Chambly Canal also restrict purely domestic traffic.

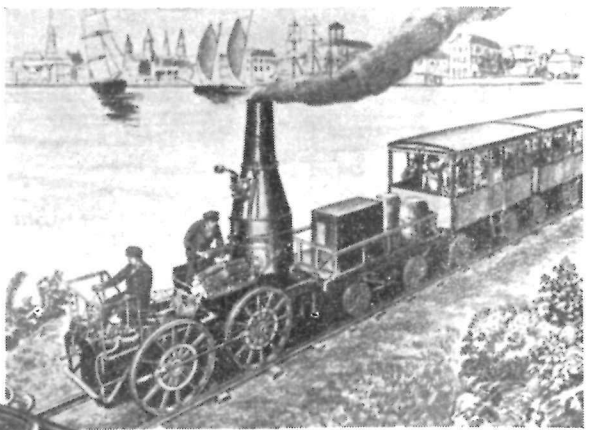
In 1845, two years after the opening of the Chambly Canal, funds were subscribed by the local 'habitants' of the little village of St. Charles on the Richelieu for two vessels, the Str. Richelieu and the barge Sincennes, to run between Chambly and Montreal.

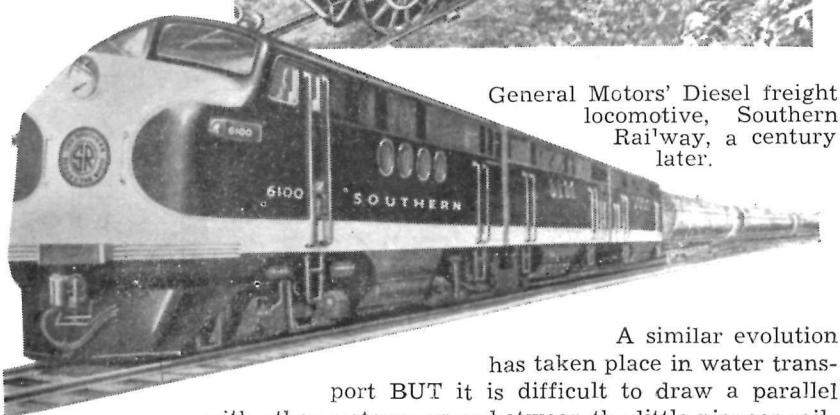
Various amalgamations and expansions led up to the formation of the Canada Steamship Lines in 1913 operating from the head of the Lakes to the Saguenay, with bulk cargo vessels in the lake grain and ore trades; in wartime serving also in the Caribbean and overseas. Ironically enough none of the large fleet of the present company can navigate the shallow waters of its parent river, the Richelieu, their cargoes must be transferred into barges at Montreal or Sorel when destined to points on that river or beyond.

HISTORY IN THE MAKING!

"Our good neighbours" are unceasingly active in all forms of transport development.

"The Best Friend of Charleston" (1830) was the first locomotive entirely built in North America—for the Charleston and Hamburg RR. (later the South Carolina RR.) now part of the Southern Railway System.





General Motors' Diesel freight locomotive, Southern Railway, a century later.

A similar evolution has taken place in water transport BUT it is difficult to draw a parallel with other waterways or between the little pioneer railroad and the Chambly Canal, each of which broke ground within six months of the other, because the Canal failed to progress with the times.

A PROTECTED INSIDE WATERWAY IS A MILITARY NECESSITY AS WELL AS A COMMERCIAL NECESSITY.

The war has demonstrated once more the importance of inland waterways. It cannot be denied that, while the potentialities of the Richelieu route were being overlooked, a modern inland water connection with the great U.S. intra-coastal system extending down to the Gulf of Mexico, would have been invaluable these past four years. It would have saved LIFE, FUEL, MONEY and SHIPS. One would have heard less of sinking, of shortages of oils, coffee, sugar and other southern products. Naval and mercantile vessels would have moved speedily and with impunity between Quebec coastal waters and the Atlantic instead of merely a few "M.T.B.s" between Montreal and New York and the newsprint diesel boats. There would have been less worries at Arvida over beauxite supplies. The extra freight charges, which naturally came out of the pockets of Canadian manufacturers, consumers or taxpayers, on last year's tonnage of merely the inbound beauxite (2,100.000 tons) and sulphur (100,000 tons) via every conceivable route through force majeure (except the Richelieu) were probably equivalent to what the entire cost would have been of completing the 12' channel in the Richelieu River.

The forest industries which must export in order to exist have been the most consistent supporters of the Richelieu Route. Now chiefly engaged in the manufacture of newsprint paper and woodpulp, the present annual capacity of Quebec newsprint mills is 2½ million tons, whereas their output is 1¾ millions, being roughly a 70% operation, valued at approximately $97,125,000 delivered at destination. The New York newsprint consumption in war time is averaging 600,000 tons per year of which in 1942, the Quebec mills supplied somewhat more than half.

When construction of the Chambly Canal was begun with pick and shovel in 1831 the first steam railways in the world, namely two or three short lines in England and in the United States had been in limited operation for less than a year.

In a single century therefore dwellers in the Richelieu valley have witnessed the evolution and progress of three of the four ways of transport known to man, highway, railway and airway, while their own natural waterway has remained unchanged. In the same period the Dominion has attained to third or fourth place amongst the foremost trading nations. Montreal has become one of the great world cities. Policies affecting the future of mankind are discussed and decided at Quebec and Ottawa. The historic villages of Trois Rivieres, Sorel and St. Johns have become thriving cities and important ports-of-call. Trois Rivieres indeed is the largest newsprint manufacturing centre in the world. Sorel, now an arsenal of the United Nations, maintains its reputation as a builder of ships and a manufacturer of accessories. Beloeil and Chambly are important contributors to the war effort. St. Johns once a defence post has developed into an active entrepot and a prosperous manufacturing centre.

The large industries at these points are heavy consumers of bulk materials, coal, nitrates, moulding sand, clay, sulphur, phosphates, ores, etc. They are in the main dependent on low transportation costs on these supplies, of which approximately 500,000 tons could be imported advantageously via a modernized Richelieu route. (A breakdown of these figures is available.)

We in Canada have depended too much on the production and export of raw materials. Manufactured goods, however, can neither be produced nor distributed without reasonable access to the necessary component raw materials and to the markets. To retain our status and maintain employment in peacetime, means the retention of our newly acquired mass production techniques, this in turn means mass movements at costs competitive with countries shipping extensively by water.

The lower the cost of distribution the wider the circle in which business may be profitably transacted. Waterways furnish this low cost and their use will be necessary with every

other form of transport to permit our participation in the unparalleled but keen trade opportunities after the war.

If we are to make freedom from want a reality for the men and women from the armed forces and for the huge reserve of skilled labour, to say nothing of our 75,000 trained seamen, we must prepare now for higher income, fuller employment and greater output. The only way by which these ends may be attained is by a great expansion in post war exports and an appreciable increase in population and home consumption.

The Hon. J. A. MacKinnon, Minister of Trade and Commerce, is reported to have announced at Toronto exactly one month ago that Great Britain and the United States were preparing gigantic plans for post-war business and that Canada should get into the picture.

Distribution is a major factor in peace no less than in war and Canada must be able to use any advantageous North American port or means of transport on the best terms available.

For these reasons the members of the Executive Committee of the Chambly Canal Centenary submit to His Excellency in Council and to the Honorable Members of the Parliament the following proposed works in order to provide immediately an adequate channel in the Richelieu River:

(a) Completion of the 12-feet channel in the Richelieu River between the International Boundary and the new dam at Fryer's Island on the scale adopted in the New York State Canals System.

(b) Putting into operation of the Fryer's Island dam and completion of the works necessary for same.

(c) Construction of a canal, 5 miles long, between Fryer's Island dam and the Basin of Chambly to replace the existing canal (12 miles long) between St. Johns and Chambly. The dimensions of the new canal to be the same as those of the St. Ours Canal and the New York State Canals.

(d) Completion of the 12-feet channel, in the Richelieu River, between Chambly Basin and St. Ours dam.

(e) This work should be started immediately and not delayed until after the war. The peak of the war effort approaches, every channel of communication will be needed. One method of transport is not enough.

The completion of the balance of the 12 feet channel in the Richelieu Route in the transition period which has already appeared on the horizon would provide useful work directly and indirectly to thousands of workers, assist our Canadian exporters and manufacturers to meet competition and be of permanent value to the Province of Quebec and to Canada as a whole.

Our record in the pioneering years and in the two world wars and our new industrial strength should spur us and inspire us to prepare adequately, vigorously and unitedly for Canada's tomorrow.

N.B.—Memorials requesting immediate and consistent action in resuming the modernization of the route with details of the present and potential value of the development of a great and safe north and south international waterway of which the existing installation at Chambly may be termed "the missing link" were endorsed and presented to the Hon. J. E. Michaud, M.P., Minister of Transport at the huge celebration and historical pageant at Chambly, September 5th, 1943.

Copies have also been sent to the Hon. Alphonse Fournier, M.P., Minister of Public Works, to the Hon. James A. Mackinnon, M.P., Minister of Trade and Commerce and to Mr. J. Gray Turgeon, M.P., Chairman, House of Commons Committee on Reconstruction and Re-establishment.

LIST OF THE DIVERSIFIED COMMODITIES NORMALLY USING THE RICHELIEU ROUTE.

Asbestos
Artists' materials
Acids (various)
Asphalt
Asphalt coated cloth
Bamboo and Cane Plant Poles
Beef extracts
Boilers
Beans (dried and soya)
Binder Twine
Burnt Sugar colouring
Bicycle Parts
Bags and Bagging
Cable Terminals
Canned Fish
Catalogues
Cauliflowers in brine
Celluloid Goods
Cheese
Chicory
Chinaware
Citrus Peel
Clay, fire
Coal, anthracite
Cocoa beans
Cocoa-butter
Cocoanuts
Cocoa-powder
Coffee (Green)
Coffee (ground)
Conduit fittings
Copper Mesh
Cores for newsprint paper
Corned Beef
Cotton linters
Cotton Piecegoods
Cotton (raw)
Cottonseed meal
Dextrine
Dried Fruit (various)
Disinfectants
Dried Leaves
Dyes (various)
Earthenware Tile
Electric Bulbs and Lamps
Eels, live
Extracts, various
Fruit Juices (various)
Fruit, canned, (various)
Feldspar
Fuller's earth
Flooring tiles
Fluorspar
Fertilizer
Garlic
Glass bulbs
Glassware
Gelatine
Groceries (various)
Gums
Honey
Hemp yarn
Herbs
Kumquats in brine
Lignum vitae (logs)
Lentils
Lignin pitch
Liquid yeast

(Continued)

Lumber
Metal ware
Mineral water
Molasses
Machinery
Marble blocks
Motor torpedo boats
Nuts (various)
Nux Vomica
Newsprint paper
Nitrate of soda
Notions
Oils (various) including essential, vegetable, petroleum.
Olives
Ores
Oysters
Paint and shellac
Paper, scrap
Peas
Phosphate rock
Potash
Powdered fruits
Paprika
Peppers
Pimentos
Pipe Bowls
Pipe-cleaners
Pumice
Quebracho extract
Rugs and carpets
Rags
Rock
Rice
Rubber goods
Sago
Scoured wool
Sand, moulding
Sugar (refined)
Sisal
Sulphur
Superphosphates
Seeds
Ship's gear
Shrimps
Soap
Spices
Stationery
Steel pipes
Steel, scrap
Stone
Sugar colouring
Tartaric Acid
Tallow
Tea
Teakwood
Tomato Sauce and Paste
Toys
Turpentine
Tobacco
Tapioca
Tanning extract
Vacuum bottles
Vegetables, canned
Wax (various)
Woodpulp
Wines and Liquors
Wool (raw)
Window glass
Water Purifying Compound
Yeast
Zinc Oxide.

PROGRAMME

CENTENARY OF CHAMBLY CANAL
SUNDAY, SEPTEMBER 5TH, 1943.

9.30 a.m.	A parade from the residence of the Superintendent of the Chambly Canal to the Parish Church at Chambly Basin, led by the Provincial Police, the band from St Johns, the Canal employees and the special guests.
10.00 a.m.	Pontifical Mass celebrated by His Excellency, Mgr. Forget, Bishop of St. Johns.
12.00 noon	A buffet lunch served to the Canal employees in the Town Hall of Chambly Canton.
2.00 p.m.	The special guests aboard the S/S "Argenteuil" at Chambly Canton (Lock 4), proceeding to Chambly Basin.
2.30 p.m.	Pageant enacting the arrival of Champlain, and the meeting with the Iroquois, followed by the locking of the M/V "Donpaco" on her way to New York.
3.00 p.m.	Welcome by His Worship, H. Beique, Mayor of Chambly Basin. Followed by addresses in the order named:

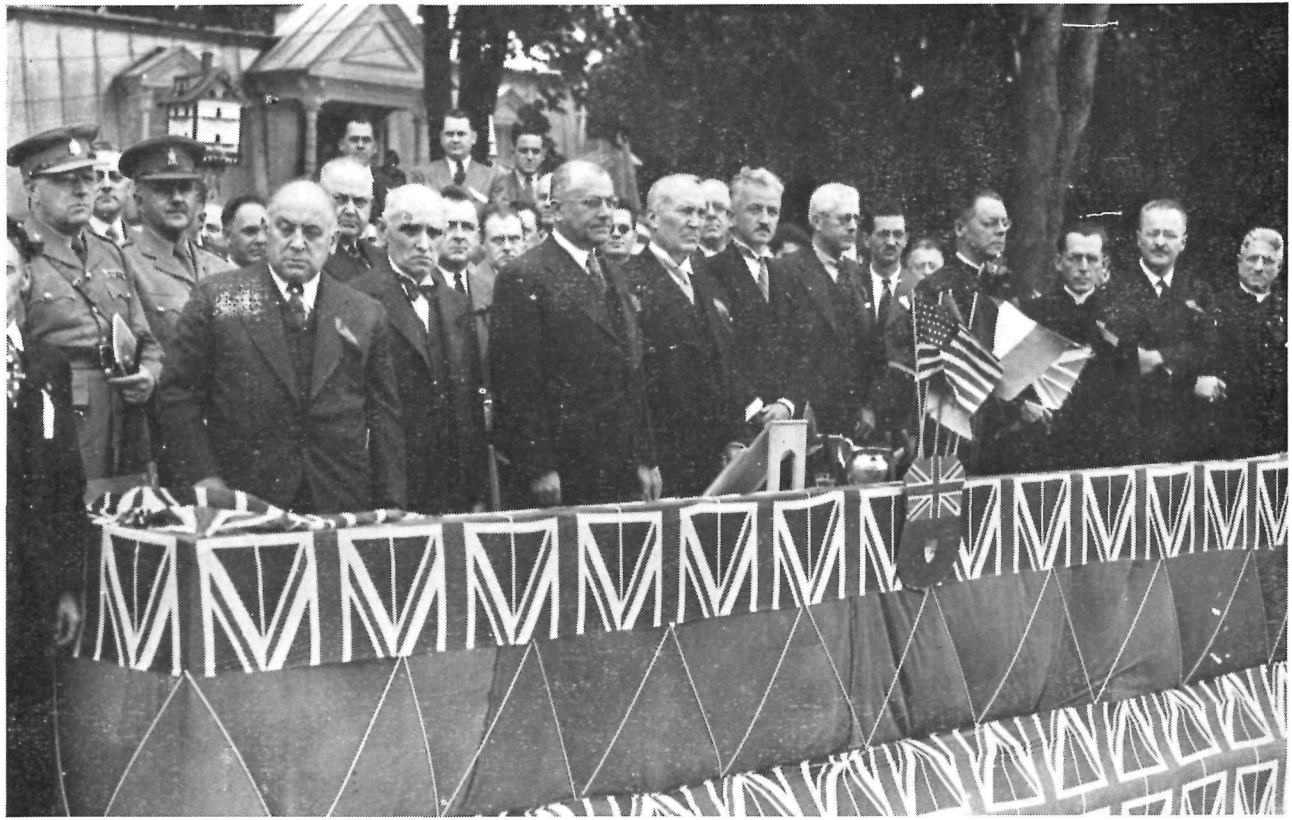
Mr. Guy Tombs, Chairman

Mr. Martial Rheaume, M.P., St. Johns-Iberville.

Hon. Mr. J. E. Michaud, M.P., Minister of Transport.

His Excellency, Bishop Forget of the Diocese of St. Johns.

SPECIAL SPEAKERS AND GUESTS AT CENTENARY CELEBRATION OF THE CHAMELY CANAL, AT CHAMBLY BASSIN, QUE., SEPTEMBER 5, 1943.



Reading from left to right, 1st row: Hon. T. D. Bouchard, Hon. P. J. A. Cardin, Hon. J. E. Michaud, Guy Tombs, René L'Heureux, L. J. Burpee, Mgr Olivier Maurault, Rev. S. Laporte, pro-mayor W. Pilon, Rev. P. J. Therrien.

2nd row: Lt.-Col. Brosseau, Lt.-Col. J. Lucien Dansereau, Armand Goyette, mayor of Iberville, J. Ed. Simard, Lucien Lachapelle, Chas. G. Prescott, J. D. Johnson, U.S. Consul.

(Continued)

Mr. L. J. Burpee, Secretary, International Joint Committee.

Hon. P. J. Arthur Cardin, M.P. Richelieu-Verchères.

Hon. T. D. Bouchard, M.L.A., Provincial Minister of Roads.

Msgr. Olivier Maurault, Rector, University of Montreal.

5.00 p.m. A reception for the invited guests held in the grounds of the Superintendent's residence.

8.30 p.m. Concert by the Cercle Philharmonique of St. Johns at the Canal entrance.

★

"It is interesting to recall that in 1827 a Davie Shipyard launched the first British warship built in Canada, (The "Kingfisher", an 18 gun brig of the Royal Navy.) A silver commemoration cup presented by King George IV is in the possession of Mr. C. G. Davie, a member of the Executive Committee of this Centenary celebration. This descendant of the founder of that shipyard is joint owner with the Donnacona Paper Company, of the largest fleet of diesel barges operating between St. Lawrence Ports and New York City, designed especially for the restricted waters of the Richelieu.

★

DOMINION OF CANADA

DEPARTMENT OF TRANSPORT

Hon. J. E. Michaud, Minister

Commander C. P. Edwards, Deputy-Minister

CANAL DIVISION

E. B. Jost	General superintendent of canals
J. H. Ramsey	Senior hydraulic engineer
K. F. Mickleborough	Assistant general engineer
S. Hairsine	Senior electrical engineer
W. S. McDonald	Assistant engineer
C. A. Cameron	Hydrometer engineer
V. L. Lawson	Chief clerk

QUEBEC CANALS HEAD OFFICE

Jean Barcelo
Superintending Canal Engineer

ENGINEERING

J. N. Bétournay
Senior Assistant Engineer

Damien Renaud
Assistant Engineer

Roger Dorais
Assistant Engineer

Joseph Morin
Junior Engineer

Roger Brière
Junior Engineer

E. J. Gauvin
Draughtsman

CLERICAL

R. J. Barbeau
Head Clerk

Donat Dupras
Deptl. Accountant

Lionel Blondin
Stenographer, grade 3

Gérald Dusseault
Stenographer grade 2

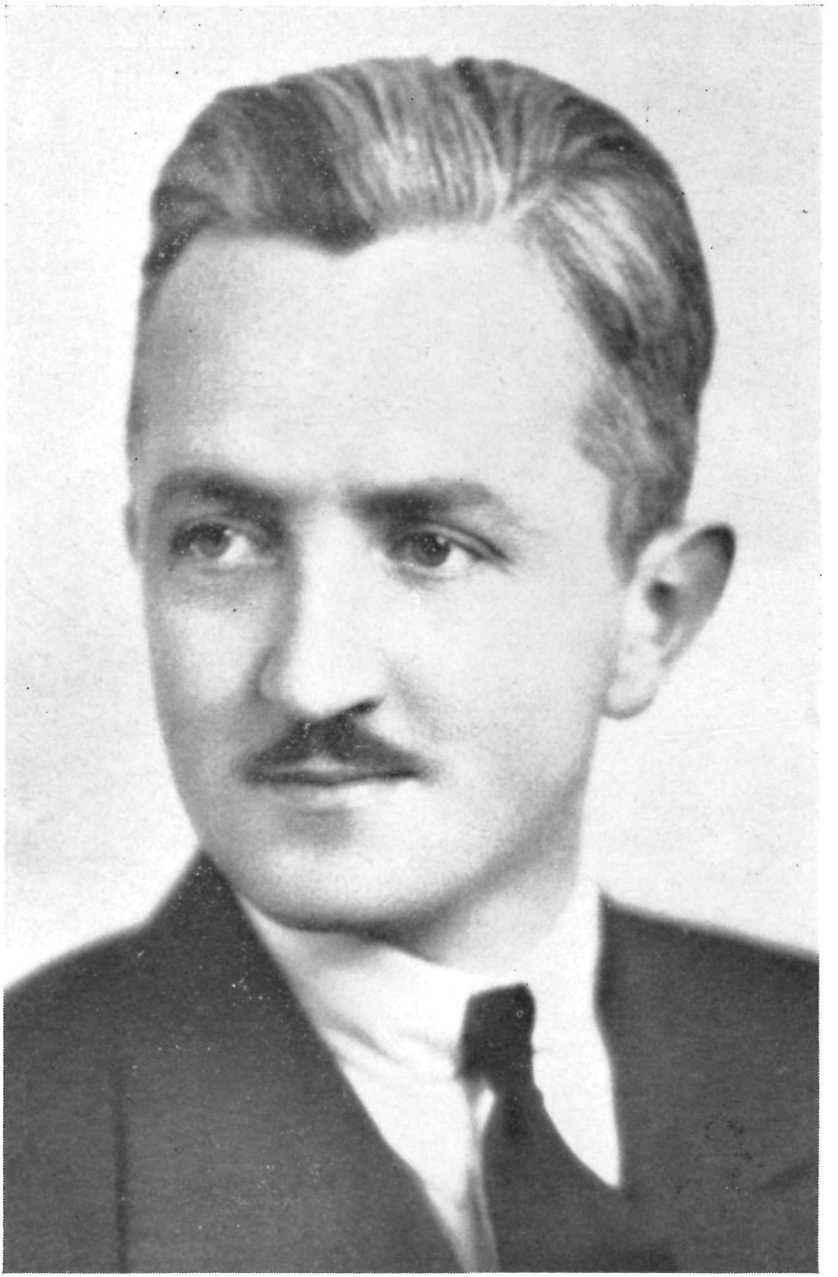
P. E. Libert
Clerk

Camille David
Clerk

J. G. Raymond
Clerk

Paul Cholette
Clerk

J. M. Courteau
Clerk



MR. RENE L'HEUREUX, C.E.,
superintendent of the Chambly Canal.

EMPLOYEES' ASSOCIATION

Directors

1. Zotique Potvin, President
5. Athanase Garceau, Vice-Pres.
11. Achille DeSenneville, V.-Pres.
10. Aime Martin, Secrétaire
3. J. A. Dumaine, Trésorier.
2. Charles Bédard
4. F. Lespérance
6. J. C. P. deBeaujour
7. Charles Brunelle
8. J. Bigonesse
9. J. DeSenneville.

1. Louis St-Germain
2. Joseph Gemme
3. René Moquin
4. Arsène Denault
5. René Fournier
6. Arthur Martel
7. Armand Gemme
8. Stanislas Lussier
9. Arthur Fournier
10. Charles Barrette
11. J. H. Boivin
12. Nazaire Baril
13. Omer Hébert
14. Lorenzo Jutras
15. Dosylva Dubuc
16. Léo Grisé
17. Alida Côté

1. Arthur Desormeaux
2. Arthur Vermette
3. Paul Gemme
4. Euclide Martel
5. Leo Gemme
6. Ernest Meunier
7. Rodolphe Lecompte
8. Paul Cognac
9. W. C. Stoddart
10. René Cognac
11. Arthur Tougas
12. J. R. Terrill
13. L. I. Paquet
14. Georges Jeannetot
15. Louis Renaud
16. Eugene Delamarre
17. Xavier Fortin

1. Alfred Guertin
2. Antonio Laventure
3. Georges Leblanc
4. Joseph Power
5. Albert Raymond
6. Victor Girard
7. Henri Lefebvre
8. Rosario Martel
9. Candide Larivee
10. Arthur Chamberland
11. Henri Daigneault
12. Sylvio Papineau
13. Eugene Dulude
14. Amedee Laurin
15. Herm. Desilets
16. Emile Aubertin
17. Henri Charron

SUPERINTENDENTS

OF

CHAMBLY CANAL

M. Borne	Nov. 1843 to October 1853
P. F. Chartier	April 1854 to Nov. 1863
C. Préfontaine	Nov. 1863 to June 1877
Louis Ouimet	June 1877 to May 1879
C. Ulric (ad interim)	May 1879 to Nov. 1881
C. Ulric	Nov. 1881 to June 1885
P. B. Benoit	July 1886 to July 1905
A. P. Jodoin	July 1905 to Jan. 1912
J. E. Robitaille	Jan. 1912 to Mar. 1931
J. H. Cantin	Mar. 1931 to Nov. 1936
René L'Heureux, C.E.	Since January 1937

THE HISTORICAL NOTES HEREIN PUBLISHED HAVE BEEN COMPILED BY MR RENÉ L'HEUREUX, C. E., AND PRINTED ON THE PRESSES OF LES ÉDITIONS DU RICHELIEU, LTÉE SAINT-JEAN, P. QUE.