



Fig. 2.—Side Elevation.

out under a gradual increasing resistance and the vehicle will therefore be brought to a gradual stop without injury. Early designs of safety gates for draw bridges and rail-road crossings were either so light that they formed no barrier at all and did not therefore prevent a fast-moving machine or the like from going into the channel or else they were made so strong and rigid that colliding with the gate would be about as dangerous as going into the river, and not until the chain barrier was invented has the problem been solved of a protection gate which really protects.

Fig. 1 shows a cross-section on centre line of pier. The left half shows the bridge raised to its fully open position (30 feet clear headroom), the right half shows the span in its closed position. It will be noticed that all mechanism, counterweight, etc., are entirely hidden under the roadway. The bridge is perfectly balanced in every position.

The contract for the superstructure was let to the Dominion Bridge Company, of Ottawa.

The whole works are being supervised by F. C. Askwith, acting city engineer, and Robt. Henhan, bridge engineer.

POLLUTION OF CANADIAN STREAMS.

"THE question of stream pollution is becoming very serious in Canada," says a recent report issued by the Commission of Conservation. "As a proof of this the following list of inland waters receiving raw sewage has been compiled, the figures following each stream showing the number of municipalities thus disposing of their sewage:—

"Nova Scotia—Annapolis River, 3; Cornwallis River, 1; La Have River, 1.

"New Brunswick—Miramichi River, 1; Peticodiac River, 1; St. John River, 3.

"Quebec—Bécancourt River and tributaries, 3; Châteauguay River, 2; Chaudière River, 2; L'Assomption River and tributaries, 3; Lièvre River, 1; Nicolet River and tributaries, 4; North River, 2; Ottawa and des Prairies Rivers, 6; Richelieu River and tributaries, 5; River du Loup, 1; Ste. Anne River, 1; St. Francis River and tributaries, 15; St. Lawrence River, 29; St. Maurice River, 3; Saguenay River and tributaries, 4; Yamaska River and tributaries, 9.

"Ontario—Bear Creek, 1; Bighead River, 1; Bonnechère River, 1; Credit River, 1; Grand River, 2; Junction Creek, 1; Lake Erie to head of St. Clair River, 6; Lake Huron to head of St. Mary River, 9; Lake Ontario to

head of Niagara River, 10; Lake Simcoe, 1; Lake Superior, 2; Moira River, 1; Muskoka River, 1; Otter Creek, 1; Ottawa River, 3; Rainy River, 2; Rideau River, 1; St. Lawrence River, 6; Saugeen River, 3; Sturgeon River, 1; Sydenham River, 1; Tay River, 1; Lake Timiskaming, 1; Madawaska River, 1; Maitland River, 1; Marshy Lake, 1; Thames River, 1; Thessalon River, 1; Trent tributaries, 2; Twelvemile Creek, 1; Wabi River, 1.

"Manitoba, Saskatchewan and Alberta—Assiniboine River, 2; Bow River and tributaries, 3; Boyne River, 1; Oldman River, 1; Red River, 3; Red Deer River, 1; North Saskatchewan River, 2; South Saskatchewan River, 2.

"British Columbia—Columbia River, 1; Kootenay River, 1.

"From most of the above streams, municipalities draw their water supply, the intakes being situated at points below the discharge outlet for sewage.

"The supply of water to communities is the most important use of inland waters and the value of a pure supply, as compared with one polluted by sewage, can scarcely be over-estimated. Even where water systems are provided with filtration plants, there is great danger of overloading the filters if the source of supply is grossly

Sewerage Systems in Canada.

(In this compilation, the items, which it was impossible to obtain from the municipalities, have been estimated and included.)

PROVINCE	SEWERS				SEWAGE TREATMENT		
	No. of Systems		Total No. of Miles	Total Cost (dollars)	No. of Systems Where:		Cost of Treatment Plants (dollars)
	Combined	Separate			Not Treated	Treated	
Nova Scotia	16	4	153	1,716,590	20	...	...
Prince Edward Island ...	...	2	28	175,000	2	...	...
New Brunswick	5	5	123	1,101,062	10	...	...
Quebec	60	38	829	20,861,531	86	12	389,000
Ontario	54	41	1,670	24,195,834	60	35	1,774,287
Manitoba	5	4	335	6,084,736	6	3	116,291
Saskatchewan	3	12	237	3,623,962	3	12	694,485
Alberta	7	7	407	7,896,477	8	6	131,300
British Columbia	5	11	441	8,849,228	9	7	113,572
Canada	155	12	4,223	74,504,418	204	75	3,218,935