

St. Lawrence & Industry Railway.....	12
St. Lawrence & Ottawa do.	54
Toronto, Grey and Bruce do.	159
Toronto and Nipissing do.	88
Vermont Central.....	25
Do. Stanstead, Shefford & Cham-	

bly Branch.....	43
Welland Railway.....	25
Windsor & Annapolis.....	106
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Total miles of Railway.....	3,669

Canadian Pacific Railway.

The chief facts, as elicited by the surveys instituted by the Government of Canada, under the superintendence of Mr. Sandford Fleming, C. E., relative to the Canadian Pacific Railway were published in the *Year Book* of 1873; but the following may now be given:—

The projected Railway will be 2,500 miles long.

A question of vital importance in the

Altitudes of Union and Central Pacific, now in operation.

Feet above the level of the Sea.

Cheyenne.....	6063
Sherman Summit, Bleak Hills.....	8342
Laramie.....	7175
Bridger's Pass, Rocky Mountains.....	7534
Green River.....	6092
Wasatch Summit.....	7500
Ogden City.....	4320
Promontory City.....	4943
North Point Salt Lake.....	4290
Humboldt Hills.....	5650
Humboldt Lake.....	4047
Summit Sierra Nevada.....	7041

The Tête Jaune Pass is described by Mr. Fleming as the "Gate" of the Rocky Mountains between the Atlantic and Pacific sides of the continent, having only about half the altitude of points actually surmounted by the Union and Central Pacific Railway now in successful operation.

But it is by no means certain that a very much more favorable pass will not be found further to the North. During the summer 1873, Captain Butler, author of the *Great Lone Land*, and whose writings on the North-West of this continent have attracted attention both in the United Kingdom and America, returned from an exploratory expedition, undertaken by himself, of the country, about 500 miles to the North of the Government survey of the proposed Canadian Pacific Railway; and he states that it is in every way better fitted for the purpose of the Railway, and that a pass through the Rocky Mountains can be found, not exceeding 1,800 or 2,000 feet in height, with very easy slopes on both sides, and a very much better country on the British Columbia side, through which to reach the Pacific Ocean. This statement of fact from a man so eminent as Capt. Butler, calls for further special enquiry and survey before the route of the Railway is finally determined.

The route indicated by Capt. Butler may be roughly stated to take a departure from the surveyed line, about 150 miles west of Lake Winnipeg, running up to the Lesser Slave Lake, thence finding its way to Fort Fraser, and reaching the Pacific, say at King's Inlet.

But laying for a moment aside the advantages indicated by Capt. Butler, the com-

parison of altitudes in the tables we have given between those of the Union & Central Pacific and those of the proposed Canadian Railway, as shewn by the Government survey, the difference in favor of the latter merits careful consideration. It is very striking. It may further be remarked that the dynamic and physical difficulties implied in hauling heavy trains over great altitudes are not alone to be surmounted. The climatic influences connected with them are scarcely a less important consideration. Proportion of altitude implies proportion of severity of weather and fall of snow. The works found necessary to protect from snow falls on the U. S. Railway are stupendous; and yet, the traffic was often impeded for days from snow blockade last winter. Everywhere along the Canadian line there is reason to believe the fall of snow will be very light.

Altitudes of proposed Canadian Pacific.

Feet above the level of the Sea.

Long Lake.....	1300
Lake Nipigon.....	1250
Height of land between Lake Nipigon and Fort Garry.....	1500
Fort Garry.....	640
Jasper House.....	3372
Yellow Head Pass.....	3760
Tête Jaune Cache.....	2560
Albreto Lake.....	2835
Kamloops.....	810
Lytton.....	700
Hope.....	150

The following extracts are quoted from Mr. Fleming's Report:—

"Viewing the Canadian Pacific Railway as a 'through' route between Ports on the Atlantic and Pacific Oceans, the comparative profile of altitudes as above given illustrates the remarkable engineering advantages which it possesses over the Union Pacific Railway. The lower altitudes to be reached, and the more favorable gradients are not, however, the only advantages.

"A careful examination into the question of distances shows, beyond dispute, that the Continent can be spanned by a much shorter line on Canadian soil than by the existing railway through the United States.

"The distance from San Francisco to New York, by the Union Pacific Railway,