

1869 the United States again took up the question of an Isthmian canal, and President Grant appointed a commission to investigate the matter. A treaty was entered into with the United States of Columbia in 1870, and as the Panama route was subject to the Panama Railroad Company's concession, the commission selected the Nicaragua route, and reported favorably upon it in 1876, but nothing was done, and France stepped in and remained in control until 1904.

Ferdinand de Lesseps formed a company in 1878, and secured a concession from the United States of Columbia. Surveys were made and the route from Colon to Panama was decided upon. The Panama Railroad was purchased for \$18,000,000.00, and work was started on a sea-level canal; \$240,000,000.00 was subscribed to the project and the time of completion was fixed as twelve years.

In 1887 it became impossible to secure more money and a lock canal was substituted for the sea level project, but at last the whole work stopped for lack of funds, \$260,000,000.00 having been expended and 66,700,000 cubic yards of excavation having been removed.

In 1889 work was suspended and a receiver appointed. A new company was formed in 1894, and this company continued to do sufficient work to maintain its franchise, until in 1904 all of its rights were taken over by the United States. The total excavation by both French companies amounted to about 78,146,000 cubic yards.

The United States secured from the French company all of its franchise rights, the Panama Railroad, all the French surveys and maps, machinery, buildings, etc., etc., and paid therefor \$40,000,000.00.

The United States has utilized 29,000,000 cubic yards of the French excavation in the present project, valued at \$27,500,000.00. The Panama Railroad, for which the French paid \$18,000,000.00, was valued at \$7,000,000.00. A total of 76,000 acres of land was acquired. The French surveys, maps, and data were valued at \$2,000,000.00. Up to the present, French machinery valued at \$1,000,000.00, and French buildings, valued at about \$2,000,000.00, are in use.

The United States made a treaty with the Republic of Panama and paid \$10,000,000.00 for all rights conveyed, and agreed to pay \$250,000.00 per annum, after the expiration of nine years from the date of the signing of the treaty. Under this treaty the United States guarantees the independence of the Republic of Panama and secures absolute control of the canal zone, a strip of land ten miles wide, through the centre of which the canal passes. This zone has an area of about 448 square miles. It is a perpetual lease to the United States for this territory with all governmental rights and privileges, but strictly it is not United States soil, for residents therein acquire no rights of United States citizenship. The cities of Panama and Colon, while within the five-mile limit which bounds the canal zone, from the centre line of the canal, are not included in the zone, and are considered Panamanian territory, although the United States has the right to regulate sanitary matters within their borders and preserve order with armed forces if they consider it necessary.

The canal will pass through the Isthmus from the south shore of Limon Bay, in a southeasterly direction, to Balboa near Panama, on the Pacific side. Its length from shore to shore will be $41\frac{1}{2}$ miles, and from deep water in the Atlantic to deep water in the Pacific $50\frac{1}{2}$ miles.

In entering the canal from the Atlantic, a ship will proceed from deep water in Limon Bay, a distance of seven miles, to the north end of Gatun Locks. It will be raised 85

feet through these locks, by three steps, and will then pass out of the locks into the Gatun Lake, which is formed by the Gatun Dam intercepting the Chagres River. The ship will pass through the lake and Culebra Cut to the Pedro Miguel Lock, on the Pacific side, a distance of about 32 miles, Culebra Cut itself being about nine (9) miles long. The ship will here be lowered 30 feet through Pedro Miguel Lock, by one step, and will then pass through Miraflores Lake, a distance of about two (2) miles, and enter Miraflores Locks, where it will be lowered 55 feet, at mean tide, by two steps, to the level of the Pacific Ocean. It will then proceed through the channel about eight (8) miles to deep water in the Pacific.

The channel throughout its entire length will have a minimum depth of 41 feet. The tidal variation on the Atlantic side does not exceed $2\frac{1}{2}$ feet, while on the Pacific side it is about 21 feet. The time of passage for a ship through the canal is estimated to be from nine to ten hours, three of which will be spent in the locks.

BRITISH COLUMBIA.

More is being heard of the Peace River country, the last great hinterland. Surveyors report that it is a good grazing country, the chances for raising grain crops being as good as in many parts of the Northwest already cultivated. Exploration parties who were in the district during the past summer report that pioneers have found their way and have established homesteads. The British Columbia government is laying out the land within the borders of its territory so that settlers may go on to land that is surveyed.

Vancouver business men are taking action toward the construction of a line of railway direct from this city to the district soon to be developed, and more than one company would profit by the activity that will soon manifest itself there. Application will be made to the Dominion early in the year to incorporate the Vancouver and Peace River Railway Company, with all the necessary subsidiary powers. Amendment will be asked to the British Columbia and Alaska Railway Act, 1910, whereby it may run a line into the Peace River country. The Canadian Northern also may operate a route to reach the district, with the intention of ultimately extending the line across Northern British Columbia. The great northern interior has waited long for transportation facilities, but it was not until the Grand Trunk Pacific started construction that life was given. It is as much to the credit of the Grand Trunk Pacific as any one else that British Columbia's great undeveloped north is at last to have transportation.

The steamer is now being constructed at the mills of Canadian Western Lumber Company on the lower Fraser for the route between Fort George and Tete Jaune Cache. This will give Edmonton direct touch with the Fort George territory, for it will be an easy matter to transport goods by rail to the Cache and thence by steamer down the river. The present method by wagon from Ashcroft to Soda Creek is costly and slow.

The statement made by Mr. A. G. McCandless, president of the Vancouver Board of Trade, that the Vanderbilt interests have had representatives exploring the Peace River country, with the object of constructing a railway should conditions warrant, is interesting. The report, it is understood, is very satisfactory. Besides agricultural possibilities, great areas of coal, soft, bituminous and anthracite, were discovered. The rainfall is eighteen inches annually, copious at the season when it is most needed.