

HALIFAX RAILWAY, AND PUBLIC WORKS IN CANADA. 15

BRITISH  
NORTH AMERICA.

But bridging in this country is not the same formidable affair that it is in England. The rivers are nearly always shallow, and the materials, wood and stone, are close at hand.

The bridges in the United States, on the best lines, are built of wood on the truss-work principle, with stone piers and abutments.

On the Boston and Albany lines, and on many others in the New England States, the bridge generally used and approved of is known as "Howe's Patent Truss Bridge."

The cost of this kind of bridge, as furnished by the parties who have purchased the patent, is as follows :—

|                                                   | Dollars. | £. | s. | d. |          |
|---------------------------------------------------|----------|----|----|----|----------|
| For spans of 60 feet, single track, 11 per foot = |          | 2  | 5  | 10 | sterling |
| 100           "           18           "          |          | 3  | 15 | 0  | "        |
| 140           "           21           "          |          | 4  | 7  | 6  | "        |
| 180           "           27           "          |          | 5  | 12 | 6  | "        |
| 200           "           30           "          |          | 6  | 5  | 0  | "        |

The cost for double track would be about 55 per cent. additional. The price includes the whole of the superstructure ready for the rails, but not the piers and abutments.

The bridge over the Connecticut River at Springfield is built on this principle; it has seven spans of 180 feet each, and the sill of the bridge is 30 feet above low water. On other lines the same kind of bridge is used, but no iron-work is permitted (the unequal expansion and contraction of this metal is objected to), and the addition of an arch is introduced.

A bridge built on this principle on the Reading Railroad, 1800 feet long, cost 40,000 dollars, equivalent to 8330*l.* sterling.

Soon after passing the valley of the Metapediac, the great obstacle of the St. Lawrence chain of mountains is got over, and the line may range away towards Quebec. Having, however, occasionally a river or ravine to cross, whose passage requires consideration.

At the Trois Pistoles, the stream in the course of ages has worn out a very awkward and deep ravine. The bank on one side is generally steep and abrupt, whilst that on the opposite is low and sloping away back for a long distance, before it again reaches the height of the table land.

The most favourable site for crossing it occurs at about 11 miles from the St. Lawrence, where the two banks become nearer to each other, and are more equal in height.

At this point the breadth of the stream is 100 feet at bottom. The width between the banks at top 500, and the depth is nearly 150 feet. The banks are rocky. Though formidable, it is by no means impracticable.

On the New York and Erie Railway there is a bridge whose roadway is 170 feet above the bottom of the ravine, which it crosses by one span of 275 feet. Its cost was 5200*l.*

From Rivière du Loup to Quebec, the railway might, but for the snow, be carried almost at a surface level.

Through the whole of New Brunswick, for 234 miles, and through Lower Canada as far as Rivière du Loup, 167 miles, there will be found along the line abundance of timber and stone (including limestone) of the best quality for building purposes. There will be found also, in New Brunswick more especially, abundance of gravel for the superstructure.

In Nova Scotia, the railway will have to pass with but little exception through land which has been sold or granted away to individuals. The exception will be the other way in New Brunswick. It will be seen, on reference to the model map, that it approaches the settlements between Bay Verte and Shediac, and skirts along the Bay Chaleurs.

In Canada, from the mouth of the Metapediac to the Trois istoles, it runs through still ungranted land. But for the last 110 miles between Rivière du Loup, it runs through a densely settled country.

Until the detailed surveys are made, and the precise location of the line marked on the ground, it will be impossible to state precisely the exact number of miles it will pass through Crown land.

If the following estimate be taken, it will not be much out :—

|                        |            |
|------------------------|------------|
| In Nova Scotia . . . . | 15 miles,  |
| New Brunswick . . . .  | 200 "      |
| Canada . . . .         | 160 "      |
| Total . . . .          | 375 miles. |

The following synopsis will show approximately the quantities of ungranted land in the counties through which the line passes :—

| In Nova Scotia.        |  |  |         |           |
|------------------------|--|--|---------|-----------|
|                        |  |  | Acres.  |           |
| Halifax County . . . . |  |  | 780,000 |           |
| Colchester . . . .     |  |  | 120,000 |           |
| Cumberland . . . .     |  |  | 180,000 |           |
|                        |  |  | —————   | 1,080,000 |