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necessary labour upon the farms; and there is no doubt that a large portion of this class of persons would readily accept of employment on the Railroad; and probably a considerable quantity of the stock might be disposed of in this way. There is another reason in favor of winter work that does not usually apply to Railroads. On this road there is about one hundred and sixty thousand cubic yards of rock excavation at an estimated cost of upwards of sixty thousand pounds. Common labourers are not efficient at this kind of work, but the plaister quarry men are good miners, and in winter are mostly out of employment. In the County of Hants is a large body of men who either follow the business of quarrying plaister at present, or have been accustomed to it at some former time. If this rock cutting is confined to the summer, it must be done at such a price as will induce these men to leave their quarries and farms, or at an expense equally great by labourers unaccustomed to the work. Whereas, in winter the price would come nearly to the level of that of other work. That this work can be done in the dead seasons of the year, is certain—experiments have been made in this Province on a small scale, which prove it. In such reports as I have been able to procure, respecting the Massachusetts roads, there is no intimation of the work being stopped by the winter. Just now, large quantities of earth are being removed into Boston, for filling up low ground; and in Vermont, a colder country than Nova Scotia, there were a great number of men employed upon Railroads last winter, and I believe they are at work this winter—though of this I have no positive information.

This may serve partly to explain the fact of the rapid increase of railroads in Massachusetts. That State, containing about eight hundred thousand inhabitants, had from 1830 to 1848, expended in the construction of railroads, about thirty five millions of dollars, and this immense amount of labour has been paid for without foreign assistance, and without neglecting any other interests. But great as it is in the aggregate, when spread over 18 years, and divided among the population it appears a very light burden. Massachusetts is as poor, if not a poorer territory than Nova Scotia, but by judicious combination the inhabitants have done more than those of any other State in the Union. That they have derived great benefits from their railroads, may be inferred from the fact that these works are steadily upon the increase. In 1846 the State Legislature chartered eighteen; in 1847, sixteen; and in 1848, nineteen railroads and branches, with an aggregate capital of fourteen millions and a half of dollars, and this in addition to eight hundred and eighty miles of railroad already made. When this is compared with the tardy rate at which railroads advanced from 1830 to 1840, it shows not only an increased confidence in the value of them but in the available resources of the country.

SUMMARY OF CURVES AND STRAIGHT LINES

| Number of Curves | Length of Curve of same Deflection in miles. | Radii in Feet. | Deflection in Degrees. | Total Deflection in Degrees. |
|------------------|--|----------------|------------------------|------------------------------|
| 1 | .3375 | 800 | 127.63 | |
| 1 | .2687 | 1,000 | 81.38 | |
| 1 | .2375 | 1,250 | 57.45 | |
| 7 | 2.2187 | 1,500 | 441.7 | |
| 2 | .8250 | 1,600 | 156. | |
| 5 | 2.4375 | 2,000 | 368.7 | |
| 9 | 3.6562 | 2,500 | 431. | |
| 8 | 5.6814 | 3,000 | 573.5 | |
| 5 | 2.3187 | 3,500 | 200. | |
| 4 | 2.6937 | 4,000 | 203.74 | |
| 3 | 1.3375 | 4,500 | 90. | |
| 5 | 2.9875 | 5,000 | 180.75 | |
| 14 | 6.0250 | 5,500 | 331.33 | |
| 3 | .7750 | 6,000 | 29. | 3281.65 |
| 68 | 31.7999 | Curved Line. | | |
| | 14.9875 | Straight Line. | | |
| | 46.7874 | Total. | | |

TABLE OF GRADES.

| Dis- tance. | Inclina- tion per mile. | Ascent. | | Descent. | | Total As- cent and Descent. |
|-------------|-------------------------|---------|--------|----------|-------|-----------------------------|
| | | Miles. | Feet. | Feet. | Feet. | |
| 17.825 | Level. | | | | | |
| 3.195 | 0 to 10 | 3.00 | 18.30 | | | 21.30 |
| 4.337 | 10 to 15 | 39.17 | 15.95 | | | 55.12 |
| 3.575 | 15 to 20 | 23.95 | 43.55 | | | 67.50 |
| 3.600 | 20 to 30 | 82.50 | 62.60 | | | 145.10 |
| 2.975 | 30 to 40 | 53.45 | 52.28 | | | 105.73 |
| 1.980 | 40 to 50 | 66.26 | 19.40 | | | 85.66 |
| 5.200 | 50 to 61 | 210.92 | 90.93 | | | 301.85 |
| 2.100 | 61 to 85 | — | 164.25 | | | 164.25 |
| 46.787 | | 479.25 | 467.26 | | | 946.51 |

ESTIMATE

ROAD BED.

| | | |
|--|----------|----|
| Embankment, 1,047,500 yards, at an average of 1s. 3 ¹ / ₂ d. | £67,581 | 2 |
| Rock Ex'vation, 140,000 yards, average 7s, | 61,195 | 0 |
| Dry Masonry, for Bridges and Culverts, 28,800 yards, | 10,566 | 16 |
| Protection Walls, Dry Masonry, 15,000 yds. | 3,390 | 0 |
| Superstructure of B'dgs. over roads and small rivers, | 4,942 | 5 |
| Catch Drains, | 254 | 17 |
| | £147,930 | |
| St. Croix and River Herbert Bridges, | 48,000 | 0 |
| Draw Bridges at Winkworth Creek and Nine Mile House, | 900 | 0 |