

11. As the contractors, who themselves were in sole charge of and personally conducted the tunnel-work on the contract, had, it is understood, no previous practical knowledge or experience of tunnelling, they perhaps did follow to the best of their ability the methods described in "Sim's Practical Tunnelling," which, though for a long time a standing authority on this class of construction, is a very old work mainly descriptive of the manner of working adopted in some of the tunnels constructed in the first English railways; it is therefore somewhat out of date, and should not be altogether relied upon as a guide under all the circumstances that might arise in carrying out the work of tunnelling, for which some practical experience is required besides the theoretical knowledge to be obtained from books on the subject.

12. That the timbers employed by the contractors for supporting the ground in the tunnel-drive were strong enough for the purpose required, is perhaps, correct; but it is somewhat doubtful if, owing to the inexperience of the persons in charge of the works, the best method of placing the timbers was always adopted; in any case, the resting of the bare ends of 18 ft. long bars on the brickwork of a newly-built arch, where, with the weight of the ground pressing them down, and with no intermediate supports, they acted as levers to displace the green brickwork, is not a proof that the brick lining was deficient in the strength required in the lining of the tunnel.

13. This has been referred to in a former paragraph, and need not be further remarked upon.

14. The Resident Engineer was on the ground and inspected the work a short time before the fall occurred, and made a thorough examination of the tunnel immediately afterwards, but, his powers only extending to the carrying-out of the works in accordance with the terms of the contract, he could make no concessions to the contractors that would release them from any of their obligations under it.

15. Some time after the fall in the tunnel occurred, one of the contractors (Mr. Murdoch McLean) had an interview with the Hon. Mr. Seddon at the Minister for Public Works' office, Wellington, at which I was present, when Mr. McLean represented to the Minister that owing to the difficulty and great cost of excavating the tunnel in soft ground they would sustain a heavy loss if compelled to complete the works in accordance with the terms of their contract, and proposed that the contract should be set aside, and that they might be paid for the tunnel-work at its actual cost to them, or that they (the contractors) should be released altogether from the contract, and be paid for the work done and material supplied; to which the Minister replied that "as there was a contract existing for the carrying-out of which the contractors as well as the Government were responsible, the Government could not release the contractors from their liability or vary the terms of the contract in any way, but when the contract was completed the Government would consider any representations they (the contractors) might make regarding it; as the matter stands at present nothing can be done."

16. For a considerable time after the fall in the tunnel occurred the contractors were endeavouring to overcome the difficulties connected with the inflow of water and the broken-up state of the ground at the fault.

17. When the contractors were ready to recommence the work of lining the tunnel, the Resident Engineer, no doubt, increased the thickness of the brickwork at the fault, as that was necessary owing to the ground being disturbed and partially in a state of puddle for a considerable distance all round the place, owing principally to the length of time that the works were allowed to stand before efficient steps were taken to proceed with them.

18. As the works on the Makarau contract were at a standstill, and a competent experienced Inspector was required for special works on the Otago Central Railway, Inspector Witheridge was transferred temporarily to undertake the supervision of that work, and Inspector McGonagle was sent from Rangitikei to Auckland to take up the Inspector's duties in the district; consequently, when the contractors on the Makarau contract were ready to proceed with their work, during Mr. Witheridge's absence, Mr. McGonagle was employed as Inspector on that contract. Mr. Witheridge, the Inspector referred to, is a steady and thoroughly reliable man, as well as a trained and competent mechanic, who had extensive experience in building, mining, and works of construction generally previously to being employed in the Government service about eighteen years ago, since which time he has been engaged in the position of Inspector on some of the largest and most important public works in the Auckland District, all of which were carried out in a satisfactory manner without a hitch occurring during their progress, and until the difficulties arose in connection with the works in the Makarau Tunnel, for which he was not in any sense responsible, no complaints were ever made by the contractors of the Inspector ever having failed in or exceeded his duties. It is therefore somewhat out of place for the contractors to reflect as they do on the capabilities of the Inspectors, as, even if it is true that some of the work in the tunnel has been more affected by the settlement of the ground than other portions, they must know that the difference results from other causes than the action of the Inspector, who had no direct control of the works being carried on by the contractors, whose inexperience in the management of works of this class was the main cause of the failure of supports and consequent giving-way of the brickwork in the arch.

19. Considering the low price at which the tunnel excavation was scheduled in their contract, and the length of time the work was in hand, the contractors have, no doubt, suffered some loss on this part of the contract works, but they have received payment in full of the amount of the contract, and all extra works done by them have been paid for at the schedule rates in accordance with the terms of the contract.

20. During the six years the contractors had the works in hand several slips occurred in cuttings, the total amount of which is estimated at 11,605 cubic yards of earth cleared away by the contractors; but the specification provides that "No slips shall be paid for under this clause except those that are in the opinion of the Resident Engineer due to steepness of slope, and for which an order has been given beforehand." The Resident Engineer could not therefore allow the contractors payment at the scheduled rates for the removal of these slips, as none of these slips