

bring the defects before me, but before the foreman; and enter them in the repair-book. The blocks Carter had on his engine were those slotted blocks. The slotted or grooved form of brake-blocks which came from the United States of America with these engines was replaced by our standard plain block as the first-mentioned became worn out. The slotted blocks that were on Carter's engine at the time of the accident were taken off after the accident, simply for the purpose of production if required at any inquiry, otherwise, being quite efficient, they would have remained on in use till worn out. I deny Carter's statement that he asked for solid blocks. The blocks that Carter had on his engine had worn so that the groove was worn out or obliterated at the bottom of the block. It was therefore a plain-surface at bottom, and those blocks could sweep the sand and the slime off as Carter claims the plain blocks would. With regard to the holding-power of brake-blocks, the point of retardation is between the brake-block and the tire. The retarding power is expressed by the pressure on the lever at the back of brake-block, therefore, with the grooved block the pressure per square inch equals 130 lb., and with the plain block 78 lb., but the total retarding pressure on the tire is identical with both blocks—namely, 6,667 lb. The reason why we adopt the standard plain block is because its life is longer, for the pressure is distributed over a larger wearing-area. It is not necessary for working this air-brake properly that drivers should know the internal construction of the brake. If the brake were to fail in service it is unlikely that the driver could do, at the moment, anything to alter it, even if he was quite familiar with every internal detail. Time would be required for taking the brake-gear to pieces for the purpose of repairing any defect. If you want a brake to prevent a collision you want it immediately. If it would take you half an hour to find out a possible defect; that would not help you to avoid that disaster. The Westinghouse pressure-brake has been in use in Christchurch District on locomotives since 1885, and the operation by the drivers of all the Westinghouse brakes is practically identical. Carter had ample experience with those brakes, and does not appear ever to have expressed himself as incompetent to manipulate them. Carter knew that after passing Chertsey (where the express had to cross No. 21 from Christchurch) that the express could not follow him from Chertsey to Rakaia without special instructions. Carter's statement that the first excursion train was left at Rakaia at the mercy of his train is incorrect. Rule No. 86 and instructions on page 6 of "Appendix to Working Time-table" provide for this. Then there was a question raised yesterday about Carter's failing to work a special train satisfactorily some years ago, and being dealt with accordingly. That I do not know. I need not inflict the whole particulars upon the Committee unless they desire it. It was adjudged Carter did not display good enginemanship on that occasion, and he was dealt with accordingly. In that connection, he mentioned in his evidence yesterday that the engine was a defective one. Now, if Carter had at any time a defective engine it was his duty to report all the defects in the book provided for that purpose. This duty should be performed at the end of each trip. To neglect to report defects known to him was not only a serious breach of rules but was also manifestly unfair to the driver who might be told off to run the same engine next day, when, if the defects were not reported by Carter, this next man might get into difficulties and trouble through his ignorance of the existence of the faults. Reference was also made yesterday of a failure of a similar air-brake at Sawyer's Bay. This took place on the 14th of December last, with a sister engine, No. 287, Class II. I do not know that I need go very deeply into the thing. It was not a brake failure, but a man failure. The driver had an efficient apparatus under his control; he allowed the air-pressure to go down to such a point that it was no longer operative. Then, when he suddenly wanted the brake, the air-pressure was not there, simply through the man's want of judgment. The man admitted that himself, and was dealt with by the department in the ordinary way. You might just as well say that a boiler is a defective boiler, or a dangerous one, because it will not make steam if you do not get it hot. This engine was in perfect working order, and the brake was in perfect working order, but the man did not pump up the air-pressure, and the consequence was that it was not there when he wanted it. *Re* this Chain Hills incident to which Mr. Carter referred as an engine sliding down the Chain Hills grade: in reply to inquiries, nobody seems to know anything about it unless it is Mr. Carter himself. There was another point cropped up yesterday, and again this morning—the question of Stationmasters sanding rails. I might premise that the rules and regulations we have on New Zealand railways were largely founded on English rules and regulations. The conditions of work are somewhat different. This rule about Stationmasters sanding rails was made in days when engines were not generally fitted with efficient sanding appliances. Nowadays all engines are fitted so that drivers can instantly apply sand at will; therefore the need for Stationmasters to sand rails does not exist. The engines are fitted with large dry sand-boxes, and do not now require to carry any reserve of sand in the smoke-boxes. Mr. Carter's contention dates back to a period when the present efficient sanding appliances were not in use. We have larger sand-boxes nowadays, and an ample supply of sand. On that particular night, Carter had amply sufficient on his engine, and which could be applied by pulling a handle. The old-fashioned way used to be by going out and sanding the rails. The sand-valve handle is close by the driver, just as he stands at the levers. There was some mention made with regard to this rule about facing points on page 6 in the "Appendix to Working Time-tables." As originally framed, it was thought railway men would understand it. Carter professed not to understand it, and got into trouble. An amended instruction was then made bringing it down to a still clearer instruction, although the original instruction was apparently clear enough. The amended instruction was then issued going into further detail. This special instruction, together with Rule No. 86, clearly and specifically provided for a train approaching Rakaia when no signals could be seen from any cause whatever an absence of the signal was to be regarded as a danger signal signal (*vide* Rule 352). Well, then, we come to another reference: the question of speeds. The speed limits are fixed by the experts as safe for the most unfavourable portions of the line between which