positions. I also pointed out, and you in your book [The Designing of Ordinary Iron Highway Bridges] do the same, that the overturning of a road bridge by wind would be a far less serious affair than the destruction of a railway train—but without avail. He simply ignored us and insisted on the alteration.

"The local body interested then called in an elderly engineer, who had for many years been chief engineer of roads and bridges to the colony of Victoria. He, in a most vaguely worded report, carefully avoided all calculation, but insisted on the bridge being strengthened.

"I then proposed to have large models made of our bridge and of one of the railway bridges and tested, and offered to pay all expenses if ours, slight as it looked, did not exceed in lateral resistance Mr. Greene's more massive structures. But it was no use—there was no reply.

"Mr. Rowand (the second authority) then set to work to alter and strengthen (?) our bridge. He took a year to think over his plans and then set to work. The result was simply amazing.

"He spent hundreds of pounds in propping up the piers, and, when the abutments had failed, he introduced new spans. These were so horribly designed that, though most expensive to construct, they were only half as strong in respect to carrying loads as the original structure. This was due to a local weakness in one vital bar. I pointed it out in a letter to the local council, and they sent my letter on to Mr. Rowand. He denied the weakness, and said that I was a theorist and unworthy of credence.

"I at once publicly offered to make a bridge fifty per cent. stronger than his with the same iron and no more work, and proposed to have models made one-fourth full size and tested to destruction, and offered to pay all expenses if I failed to beat him by fifty per cent., provided he paid if I did. As usual, he preserved a discreet silence.

"I, however, referred the question to the Editor of Engineering and he (see Engineering 10/10/84, p. 335) of course decided in my favour. I took care that this decision was made public, and Rowand had not a word to say.

"I omitted to state that the masonry that failed in the first instance was executed in the face of a written protest from the original designers.

"Now this is just a sample of the way in which I am constantly coming into collision with the leading engineers of this and the adjoining colonies. I find their work to present serious weaknesses, and I point them out. They never attempt to meet me fairly—they never criticize my calculations in detail or attempt to show a flaw in my reasoning—they simply call me a theorist, and when I challenge them to a public test of large-sized models they have nothing to say.

"Heaven knows I don't want to quarrel with these gentlemen. I can admit their great experience, and can appreciate their administrative skill, but when they produce the most absurd designs—when they load ordinary iron with a tension of over ten tons per square inch and risk people's lives upon it, I am bound to protest.

"As an extraordinary example of ignorance in a slightly different direction take this specification of iron. 'The whole of the wrought iron used shall be of good quality capable of bearing compression equal to sixteen