the one on, highway bridges, the principal differences between the two classes of structures being in the floor systems.

The truss stresses in railway bridges are somewhat more complicated than those in highway bridges, but the difference between the finished structures is more in quantity than in disposition of material. If Japanese engineers can accept the class of structures treated of in “The Designing of Ordinary Iron Highway Bridges,” as the above quotations would show them to be warranted in doing, they may also safely accept the bridges designed and treated in “A System of Iron Railroad Bridges for Japan.”

Professor Waddell tells us in his introductory chapter that he came to Japan some two and a half years ago, hoping not only to be at the head of a large department, but also to be able to occupy his spare time in attending to practical engineering work; but that he found there was no work in the country for foreign engineers; and, what was worse, that there were never more than a dozen students in the Engineering Department of the Tōkyō University; and that as he was unwilling to depart from Japan without leaving behind him some professional record of his stay, he has devoted a twelve-month of his spare time to the preparation of this work.

We are sure that neither the Japanese Government nor the foreign public will be slow to appreciate the conscientious motives which have led to the production of Professor Waddell’s work. And we trust that its sale in this country will be large, and that its author will be encouraged by the success which his two works meet with to give the public the benefit of the results of the study and investigation of his future, as he has of his past, career.

(August 4th 1885.)

CORRESPONDENCE.

IRON RAILROAD BRIDGES FOR JAPAN.

To the Editor of the “Japan Mail”

Sir,—Having read in the Japan Mail of the 16th inst. a review of Professor Waddell’s work on Iron Railroad Bridges for Japan, issued by the Tōkyō University, and having seen the book, I congratulate Professor Waddell on the energy, the industry, and the immense amount of labour required for compiling such a work.

Professor Waddell advises the Japanese to substitute for the present style of bridge-designing that expounded in his book, which is essentially American. He tells us that the United States of America lead the world in bridge building, and that the fact is undisputed even in Europe. He tells us that American bridges are lighter than English bridges which, being made of low-priced iron, require a great amount of it. He tells us that American bridges can be erected with the least possible amount of labour, and that unskilled labour, and he adds that all bridges in this country have grave errors. Concerning the cost per lb., he puts the American at 4½ cents, and the English at 4 cents, but he informs us that American manufacturers.