bridges in general use, consists not only in the quality of the material and the perfection of the workmanship, but in the accurate knowledge displayed in the design, of the nature and extent of the various strains to be provided against, and the nice disposition of the material for that purpose.

"Very respectfully yours,

'S. W. HALL.'"

"Mr. A. J. Centre, Engineer of the Panama Railroad, who was one of the committee, was so satisfied with the action of the bridge, that he has ordered this plan to be built by Mr. McCallum, for his large structures on the Isthmus in spans of over 200 feet.

The following letters have been kindly tendered for publication:—

Office of the New York and Erie Railroad Co.
New York, May 15th, 1858.

D. C. McCallum, Esq.

Dear Sir:

In reply to yours of the 12th instant, asking an expression of my opinion in regard to your patent bridges which have been built upon this road, I beg leave to state that the first two experimental bridges on your plan, one 105 feet, the other 115 feet in length, were put up late in 1851, to supply the places of bridges carried off by a flood, and are now standing, in good condition, without having had any repairs, unless it may be a coat of paint; that your third bridge, greatly improved, was built in 1851, over the Susquehanna River, near Lanesboro', Pa., with a clear span of 190 feet, to supply the place of a Burr span, which was shaken to pieces very soon after it was brought