This was done by Mr. James F. Joy, himself, who as president or chief manager of the Michigan Central, Chicago Burlington and Quincy, Hannibal and St. Joseph, and other roads, was at that time preparing to have bridges built across the Mississippi River both at Burlington and at Quincy. He visited personally Leavenworth and Kansas City, decided that the latter was the best point to reach, and that a bridge must also be built to make the road of value. Arrangements were therefore entered into between the Kansas City and Cameron and the Hannibal and St. Joseph Railroad companies, by which the capital interested in the latter and connecting lines of railroads, agreed to furnish the iron and equivalent for the new line, and to build the bridge at Kansas City. The entire property of the Kansas City and Cameron Railroad was assigned to Messrs. James F. Joy, Nathaniel Thayer, and Sidney Bartlett, as trustees, and the work was carried on to completion under the fiduciary charge of these gentlemen, Mr. Joy remaining throughout the chief manager of the enterprise.

On the 30th of November, 1867, the railroad was completed from Cameron to the north bank of the river opposite Kansas City, and from that date until the completion of the bridge in July, 1869, the road was operated, as a branch of the Hannibal and St. Joseph Railroad, freight and passengers being transferred by ferry.

A preliminary survey and report on the bridge site had been made in August, 1866, by Mr. M. Hjortsberg, Chief Engineer of the Chicago, Burlington, and Quincy Railroad, and on the 7th day of February following, Mr. Chanute took charge of the work as chief engineer of the bridge, under an appointment from Mr. Joy, and from that time until its completion the work was steadily prosecuted. Owing to the novelty of the work, and the difficult nature of the foundations, no trustworthy contracts could be let for them at that time, and it was determined that the company should do the subaqueous part of the work itself. Pile-driving was begun on the north bank of the river on the 27th of February, but early in April, operations at the bridge site were interrupted by high water, and could not be resumed before the 1st of August.

These spring and summer months were not wasted, but used to advantage in the preparation of a suitable outfit, and in building upon the shores the caissons and cribs afterwards used in the construction of Piers 1 and 2.