SUSPENSION BRIDGE AT OREGON CITY.

LESS than two years ago, the Willamette river, which had run "unfretted to the sea" since the command was given which first "gathered together in one place" the waters of the earth, was first spanned by a bridge at Portland, and this was quickly followed by others at Salem, Albany, and a second one at Portland. Realizing that much of their future prosperity depended upon uniting the available water power property on both sides of the river by a bridge, the people of Oregon City decided, more than a year ago, that such a structure must be erected. At that time a movement was on foot to place the magnificent power of the Willamette falls in the hands of a company which would use it for the upbuilding of the city, by securing the location there of important manufacturing institutions, which should be given factory sites free, and the use of power for a term of years. As a necessary portion of this general plan of development, a free bridge across the river was of great importance. Besides rendering the water power on the west side of the stream available for manufacturing purposes by giving it access to the town proper and the railroad, it also brought the large area of high, sightly and beautifully located land on that side of the stream into such close conjunction with the city as to render it desirable for residence purposes, and rendered tributary to Oregon City a large area of agricultural land on the west side of the Willamette, which had been practically cut off from it when the only means of crossing the stream was a small ferry, upon which tolls had to be paid. These considerations induced the board of county commissioners to build a free bridge at the expense of Clackamas county, of which Oregon City is the county seat.

Because of the high banks on both sides of the stream, it was deemed best to adopt the suspension system, and plans for a structure costing $25,000.00 were accepted, the contract being let to the Pacific Bridge Co. Work was begun on the first of July, 1888, and was pushed energetically forward, so that the bridge was completed and was accepted by the commissioners on the sixth of December. The date of completion was not known in advance, but such was the interest felt in the work by the citizens, that a large crowd assembled when it was known that the time had arrive for formal acceptance by the authorities. County Judge W. L. White and his associates on the board of commissioners, C. Bair and C. Moenke, accompanied by E. L. Eastham, John M. Bacon, Thomas Charman and W. T. Whitlock, were driven upon the bridge in a four-in-hand, where they alighted and remained while Judge White drove the last spike in the structure, amid the cheers of the crowd and the music of two bands. Brief addresses were delivered by Judge White, Mr. Eastham and W. C. Johnson. In this informal, but enthusiastic, manner, the people of Oregon City celebrated the beginning of an era of prosperity, the end of which no man can predict.

The substantial structure, an engraving of which is given on another page, spans the river from Seventh street to the high, rocky bluff on the opposite side. The bridge is seventy-seven feet above low water, permitting steamers to pass under without difficulty, and by its lofty position and the great beauty of its surroundings, making a most picturesque effect. The view from the bridge is a charming one in whichever direction the eyes may be cast, the swiftly-gliding stream beneath, the white-foamed falls, the timbered hills and mountains, the grassy vales, the cultivated fields and the white-robed Hood, combining to make pictures of wonderful beauty.

With a suspended span of four hundred and sixty-six feet, and approaches of three hundred feet on the east and one hundred and sixty four feet on the west, the bridge is indeed a large one. The structure is supported by two huge trusses, each six hundred and ten feet in length, and suspended from two cables passing over the tops of two towers near either end. The cables were made by Roebling Brothers, builders of the huge Brooklyn bridge, and consist of seven ropes bound together, each rope being one and seven-eighths inches in diameter, and containing six strands of galvanized steel wire, and have a total length of eight hundred and forty-six feet. At either end of the bridge the cables are anchored into the bed rock to a depth of thirteen feet, being secured by a casting weighing eleven hundred pounds, crossed by a girder iron five feet in length, the space above being filled with solid masonry. The iron trusses, girders, rods, braces, etc., were made in Massillon, Ohio, and in San Francisco. The trusses are sixteen feet apart, which is, therefore, the width of the roadway. Ten iron lattice struts cross the bridge overhead, from cable to cable, imparting strength and stability to the structure. A counter cable of steel wire rope, one and one-half inches thick and four hundred and eighty-nine feet long, curves upward from the base of each tower, and crosses the main cable twice, so that in the center of the span the counter cable is the highest, and is fastened to the truss and the floor beams by iron rods. At each end of this cable, in the base of the tower, is a concrete weight, which takes up the slack and maintains a constant adjustment. The expansion and contraction of the main cable by changes in temperature are provided for by movable saddles set on expansion rollers at the top of each tower, across which the cable rests, giving it a play of