

against the timbers that covered the lower side of the dam, and the crest of the dam clear across was covered with boiler iron, bent over the crest. These plates were six or seven feet long and four feet wide. These were countersunk and bolted to the covering on the upper and lower slants of the dam. The dam was covered with oak plank eight inches thick on the upper and lower sides of the dam, so that the bolts through the boiler-iron would be driven into hardwood and made very firm.

DANGERS FROM FLOODS

The next spring, 1880, we had a high flood which took out many bridges above here, (also the bridge at Eau Claire), and the railroad bridge a little ways above the dam and the bridge of the Milwaukee road at Wilkin's Island were carried over the dam, and the long inch and a half bolts that were used in the Howe-truss wooden-bridge pulled off a number of pieces of the boiler-iron and a number of the eight-inch plank on the lower side of the dam, as they swept over it, leaving the crib-work exposed. The crib-work on the dam was made of 12x12 pine, the timbers running up and down on the upper side of the dam were eight feet apart, and the timbers running the other way, to receive the covering or planking of the dam, were the same distance apart. In the summer following, I found the pressure of the water on the upper side of the dam had been so great it had squeezed the twelve-inch timbers so hard that they were only about eight inches thick. That gave me a better idea of the strength required under such a head of water. When our logs were thrown out on the bottoms, in the pond above, some of them were aground when the water subsided, and I advised Mr. Douglas that I wanted to put on a four-foot splash to float the logs that were aground. He objected, and said it might be safe to put on two feet, but the dam was not constructed to stand much more pressure than the 18 feet of water it had to stand up against. I ventured to put on a three foot splash, and always felt that the eight-foot splash they have

since put on has made it unsafe, and that, in the event of its breaking through with high water, it would probably flood a large portion of the city. I have frequently said to Mr. Davis, since he has had control of the dam, that I didn't regard it as safe with the eight-foot splash, and he has built several piers below, which are a support to it, so that it is now probably safe against high water with the splash-boards off; but when I think of the 12x12 timbers, where they cross each other for the crib work of the dam, squeezed together so they are only about 8 or 9 inches thick, I fear there is danger of the dam crushing under the weight put upon it by high water. If it should, the greater part of the dam would be torn out by the rush of water and a large portion of this city would be flooded, entailing loss of life; hence, I believe, the only safe way to maintain that water-power is to build a concrete dam immediately below the present dam, so strong that there would be no possibility of its ever giving way. There have been in different parts of this country so many terrible accidents on account of dams above cities and villages giving way that it seems to me our city should insist that the company having the lease of the dam make it safe beyond question.

The Dells Pulp & Paper Company, I understand, has secured the right of flowage above the dam so that it may raise the dam to a 30-foot head instead of what it has now. Of course the company will probably have to go to the legislature to get the right to increase the height of the dam. That done, the water-power would be worth at least double what it is worth now. In the event of the construction of a concrete dam the city would, of course, continue to own all the power it may require for water works purposes. The necessity for locks for the passage of boats has ceased. It probably would be advisable to have a sluice-way in a new dam for the passage of water-craft that some people up river may think they have the right to float, such as flat boats, or timber in rafts, if such needs should arise.