

DELLS DAM TROUBLES

There were many things in connection with the dam and the building of the lock that caused me much anxiety and trouble. Some of the timbers in the lumber-slide were not properly fastened, and came out, and some of the timbers in the log-slide on the west side of the river came out for want of having been properly bolted down, and the piers on the lock, if the specifications had been carried out, would have required the ties across the piers to be of the same size of the side-walls of the piers, twelve inches square; but, instead, they had used 6x12s, and those ties or cross-timbers were put zig-zag from one side of the lock-wall to the other, and when the weight of the stone and sand that the piers were filled with came on to them, they sprung down, and in some cases broke and pulled the wall of the lock out of plumb.

Mr. Douglas came when we filled the dam and closed the gates of the lock and filled the lock, and the walls of the lock seemed to be giving way, which caused him to call me to investigate, and see what was wrong. After uncovering the top of the lock-wall, which was not filled up to within five or six feet of the top in some places, we found that the ties of beams across the lock were broken down with the weight of stone and sand piled on them for filling. That did no special harm, except that it looked bad. We had cement mixed thin with water and poured down making the filling a solid mass, so the walls where the gates of the lock were hung were not thrown out of plumb; but Mr. Douglas was much annoyed to think the specifications had not been carried out by Mr. Johnson, who was, he said, responsible for allowing them to put in 6x12s for ties, instead of 12x12 timbers. Otherwise, everything about the dam and the lock, and in fact the whole thing, seemed to be very satisfactory. These 12x12 timbers, 32 feet long, were covered by 8x12 oak timbers 16 feet long, that rested up

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