

The last specimen broke under a strain of 84,032 lbs. per square inch, and showed a beautiful fracture entirely fibrous.

The cast-iron used in the details was a gray iron formed of a mixture of pig, generally adopted by the Keystone Bridge Company.

Specimens were tested by suspending a weight upon a bar two inches by one, and placed upon support four feet apart. The specifications required that this breaking weight should not be less than 2,100 pounds, and in all of the tests it was found to be much in excess of this amount.

The shore span is a riveted trellis girder of wrought-iron 71 feet long and 8 feet deep. The chords are of T section, composed of two vertical plates, one horizontal plate and two angle pieces; in the bottom chord the horizontal plate does not reach to the ends of the span, and the other parts are continuous for the whole length. The braces are each formed of two pieces of T iron placed back to back, and enclosing the ties, which are single bars of flat iron; both ties and braces are riveted between the vertical chord plates. The laterals are of wrought-iron, and the trusses are stiffened by short braces of T iron connecting the floor with the web. The end posts are enclosed in light ornamental castings. The floor beams are of pine, six inches by eighteen, without trussing, placed two feet between centres; on this is laid a floor similar to that on the other fixed spans. The amount of material in this span, exclusive of pavement and hand rail, is as follows: Lumber, 7,684 feet B. M.; wrought-iron, 32,165 pounds; cast-iron, 4,328 pounds.

The draw measures 361 feet and 3 inches over all; it is a Pratt truss of similar plan to the large draws erected by the Keystone Bridge Company at Cleveland, Dubuque, and other points. The skew is taken out of the truss by making the end panels of unequal lengths, the difference being 5 feet 6 inches. The upper and lower chords are of like pattern, formed of two I beams and two channel bars eight inches deep, placed side by side and united by a plate riveted to their upper flanges. The posts are of wrought-iron, of the Linville pattern. The ties are round, with both ends upset for screws; the main ties are in pairs, and the counters single, passing through the posts. The washer plates upon which bear the nuts of the ties are of cast-iron, except the top centre, which is forged. The floor beams are ten-inch rolled I beams, and rest on