

Owing to the cheapness and facility of procuring cement and stone, the abutments and wing walls were built of concrete, the concrete being braced and tied together with old rails and tie bolts as indicated on drawing, since it was found that the adjacent rock was cracked and fissured for a considerable depth. The general lines of cleavage of strata ran north and south, and the direction of oscillations east and west.

The method of erection of the bridge was as follows: Steel suspension ropes 1-5 8" diameter were carried across the gorge, resting on wooden roller bents at each abutment and connected to a winch at each end. Each half span was assembled, one on each side of the opening, and hauled to the beginning of opening, then the second panel of each from the centre was securely bolted to the hinged top of a temporary wooden braced boom 80 feet long, which was pivoted on the rock face of the gorge as shown on plan. Near the centre panels of the bridge were placed rolled bearing shoes, which rested on the 1-5 8" suspension ropes. The suspension ropes were stiffened by the use of 5-8" steel wire rope guys, these were used for alignment, and in assisting the hauling ropes in starting, stopping, balancing and controlling the travel of trusses. The shore ends of the trusses while being launched rested on skids, the ends being counter balanced as much as possible during the launching. These skids rested on rails, and are shown in the illustration. Powerful screw jacks were used when these skids jammed.

Hauling ropes of $\frac{3}{4}$ " steel were attached to the trusses, the hauling being accomplished by the aid of a locomotive.

When the ends of the half spans met at the centre of the opening, the closing up and adjustment was done by means of jacks and four powerful cam jaw levers bolted to upper and lower chords of trusses, thus holding them in position while the joints were being riveted up. When this was done the centre and end cross girders and gusset plates and spandrels of upper and lower chords were placed in position, and after these the wind bracing, laterals, floor beams and joists.

The greater weight of the truss was carried on the 80 foot boom, and the trusses were assembled at such a height that when the two halves met together, the lowering of the top end of booms would bring the trusses to the necessary height to suit the finished rail level.

The time occupied in launching and closing up the trusses was thirty-six hours, and for fixing platform, raising, clearing and closing tracks about one day. Freight traffic was suspended for three days, tracks and approaches raised, and abutments altered to suit the new bridge during this time. Passengers and baggage were conveyed across by means of a small, low level trestle bridge,