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SOME NOTES ON THE OAKVILLE VIADUCT AND THE DYNAMITING OF THE CONDEMNED ARCH RIBS, AUGUST 12, 1912.

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On Tuesday, August 13th, a rather interesting, and certainly unusual, event took place in Oakville when the big arch ribs forming the main span of the concrete viaduct under course of erection there, were dynamited. The arch span consisted of two ribs side by side, with vertical concrete posts carrying the slab and girders of the floor system.

These ribs had been completely concreted, but owing to several very serious faults in the construction, it was deemed advisable to destroy them and rebuild.

It was during the summer of 1911 that the county of Halton decided to call for tenders on a reinforced concrete viaduct over the 16-mile creek on the middle road between Oakville and the township of Trafalgar. Competitive designs in steel and reinforced concrete had already been prepared, calling for a clear roadway of eighteen feet. It was decided to adopt the concrete design and reduce the clear roadway to sixteen feet. Accordingly, these plans were prepared by Frank Barber, C.E., Toronto, as consulting engineer for Halton county, and on August 23rd the contract was awarded. Two schemes were submitted, one of which called for the floor to be 40 feet above ordinary water level, and the other at 50 feet. Owing to the better grades obtainable on the approaches the latter plan was the one adopted.

The main features of the design are a cantilevered slab floor supported on two main girders of various spans at 9 feet centres, which frame into square posts supported on heavy concrete piers. The stream itself to be spanned by a double rib arch of 135 feet 0 inches clear span on which the floor is carried by vertical posts and small girders. The arch ribs are if uniform width throughout, being 3 feet 3 inches square at the crown and increase in depth to 5 feet 6 inches at the skewbacks. The floor slab has an average thickness of 12 inches, and is reinforced entirely with ¾ inch round rods, cantilevering about four feet on each side.

Fig. 1.—Showing the Arch Just Before the Blasts.
The notches where the rods were cut are plainly visible.

Fig. 2.—The First Shot; Blowing the South Arch.
The charge in the east haunch did not explode, leaving a long end as seen in Fig. 3.

The girder spans, which form the viaduct approaches on each side of the arch are eight in number, six being on the west side; and range in lengths from 34 feet to 48 feet.

The parapets are also of concrete, and have practically no ornamentation. In fact, the whole structure is noticeably plain. Immediately that the contract was awarded work was begun, in order to get as much done as possible before frost set in. Concreting actually commenced on the footings on October 5th, and by the end of