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Two Unconventional Bridges in Praha, Czechoslovakia

Deux ponts non conventionnels à Prague, Tchécoslovaquie

Zwei unkonventionelle Brücken in Prag, Tschechoslowakei

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Two unconventional bridges there have been developed on the Technical University of Praha and now are under construction in Praha /Czechoslovakia/.

The first one is the railroad bridge shown on fig.1.

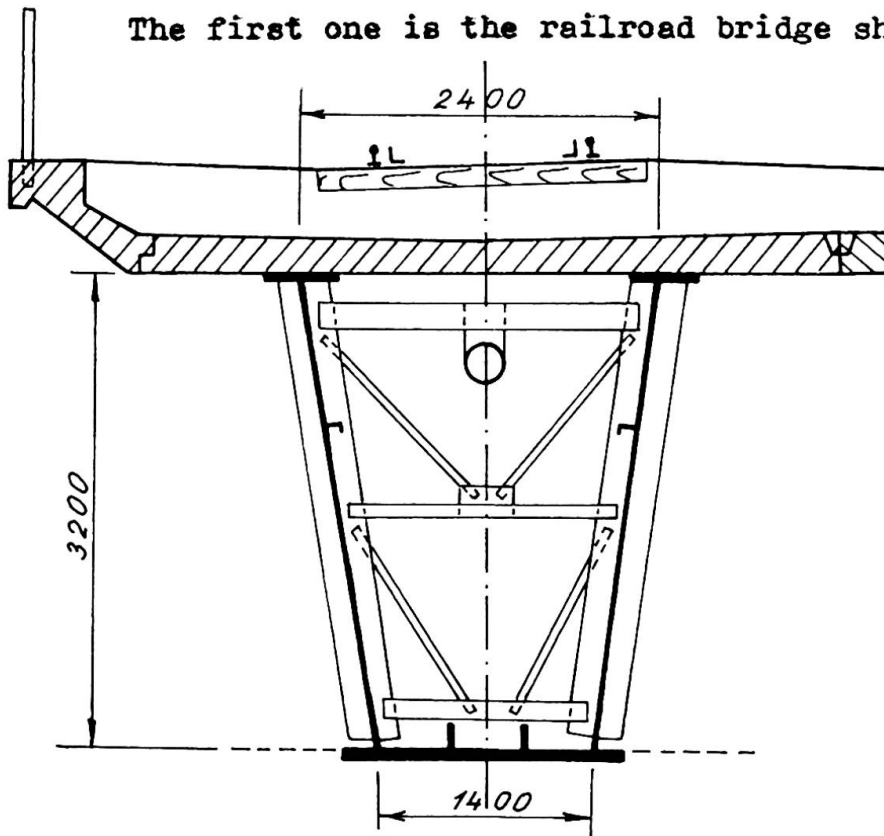


Fig.1.

The superstructure is designed in form of the steel box girder with trapezoidal cross section, connected with precast concrete deck.

The composite action of the deck and steel box girder is achieved by high strength bolts M 24. The composite structure of this type is for the first time used for heavy

railroad loading.

This bridge was developed as a standard structure. Total number of 12 such bridges will be erected in the railroad network of Praha, until now 5 of them are in operation.

The span is 46.5 m, the depth of the steel box is 3200 mm. Used steel is St 52, strength of the concrete is 500 kp/cm^2 . Each box girder is designed for one track loading. This standard section may be used for single and multi-track railroad bridges.

The second interesting bridge is the new steel bridge structure over the railroad station Praha - centre./Fig.2/.

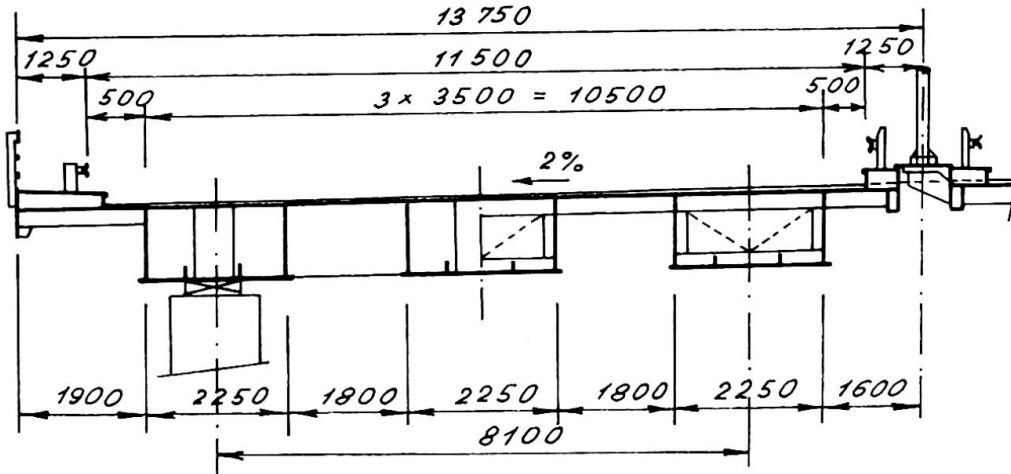


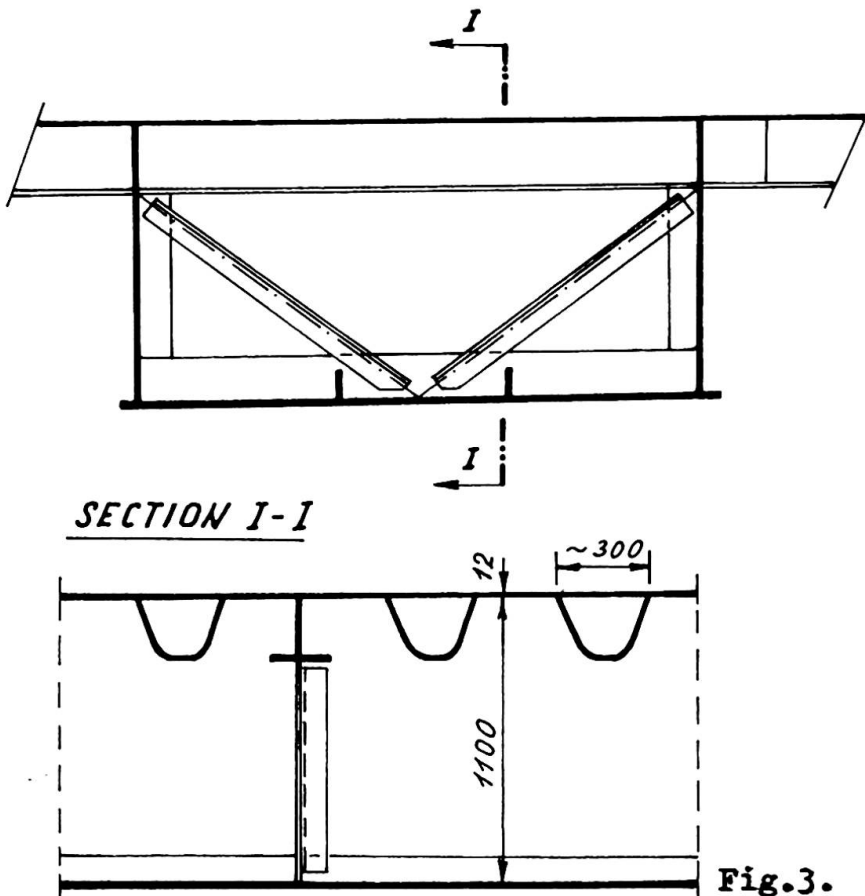
Fig.2.

With its total length of approx. 700 m it spans also several main streets intersections in the downtown Praha.

The total bridge is composed from 18 in-

dividual bridge structures with total 48 spans and total length of 1600 m. The spans vary from 35 to 45 m.

The carriageway is supported by steel orthotropic plate



with transverse box stiffeners in trapezoidal shape /fig.3./. Spacing of transverse stiffeners is approximately 600 mm. They rest on webs of main box girders.

Transverse rigidity of the orthotropic deck is sufficient for reliable transverse load distribution. Rigid cross frames are designed at supports only. Additional diaphragms inside of boxes in the quarter and in the middle of each s

Fig.3.

span resist the distortion of the box cross section.

The whole bridge is curved in horizontal plane.