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Heavy Steel Highway Bridging at the Front

Four General Types Used by the British Army in France for Spans Greater Than 30 Ft.—Inglis, 60-Ft., 85-Ft. and Hopkins Types—Loads, Foundations, Details of Design and Novel Methods of Launching

By A. C. OXLEY, M.C., D.C.M.

Formerly Lieutenant, 10th Canadian Engineer Battalion

IN the following brief record of the methods and types of spans used for highway bridges by the British Army during the recent great war, no attempt is made either to discuss standard-gauge railway spans or to take up in detail the very first bridges erected after an advance—namely, the infantry barrel-pier footbridges and the pontoon bridges used by the first-line transport.

The subject to be discussed may be called "Heavy Highway Bridging" for loads starting with the standard three-ton-capacity lorry and reaching their limit in the modern tank. The loads and methods are those of the British "G.H.Q. Heavy Bridging School," which, during the course of the war, in the winter months only, gave a series of courses of from two to three weeks' duration, to officers and others of the Royal Engineers and colonial engineering units who had already received all the usual technical training in light bridging and who had also received a fair share of "battle training."

The bridging school, under Lt.-Col. Robinson, with its supply base at Havre, was organized on the assumption that

the Germans would fight a strong rearguard action from the Ypres-Amiens line clear back to the Rhine, destroying all bridges and communications on the way. Records and plans were obtained and kept of all bridges constructed before the war in Belgium and North-east France, and enough material was stocked at Havre to replace the bridges most essential for the re-establishment of communications. Actually, the destructiveness of the Germans ceased near Mons and the destroyed gap was only about 60 miles in width.

Loads

Following is the classification of bridges by loads from the AA class, which carried tanks, to the H class, which carried infantry in single file:—

Class AA—Crowded 30-ton tanks.

- " A—17-ton axle loads at 15-ft. centres, or whippet tanks.
- " B—Caterpillars at 11 tons.
- " C—Foden 5-ton-capacity steam lorries.
- " D—3-ton lorries, 60-pdr. guns.

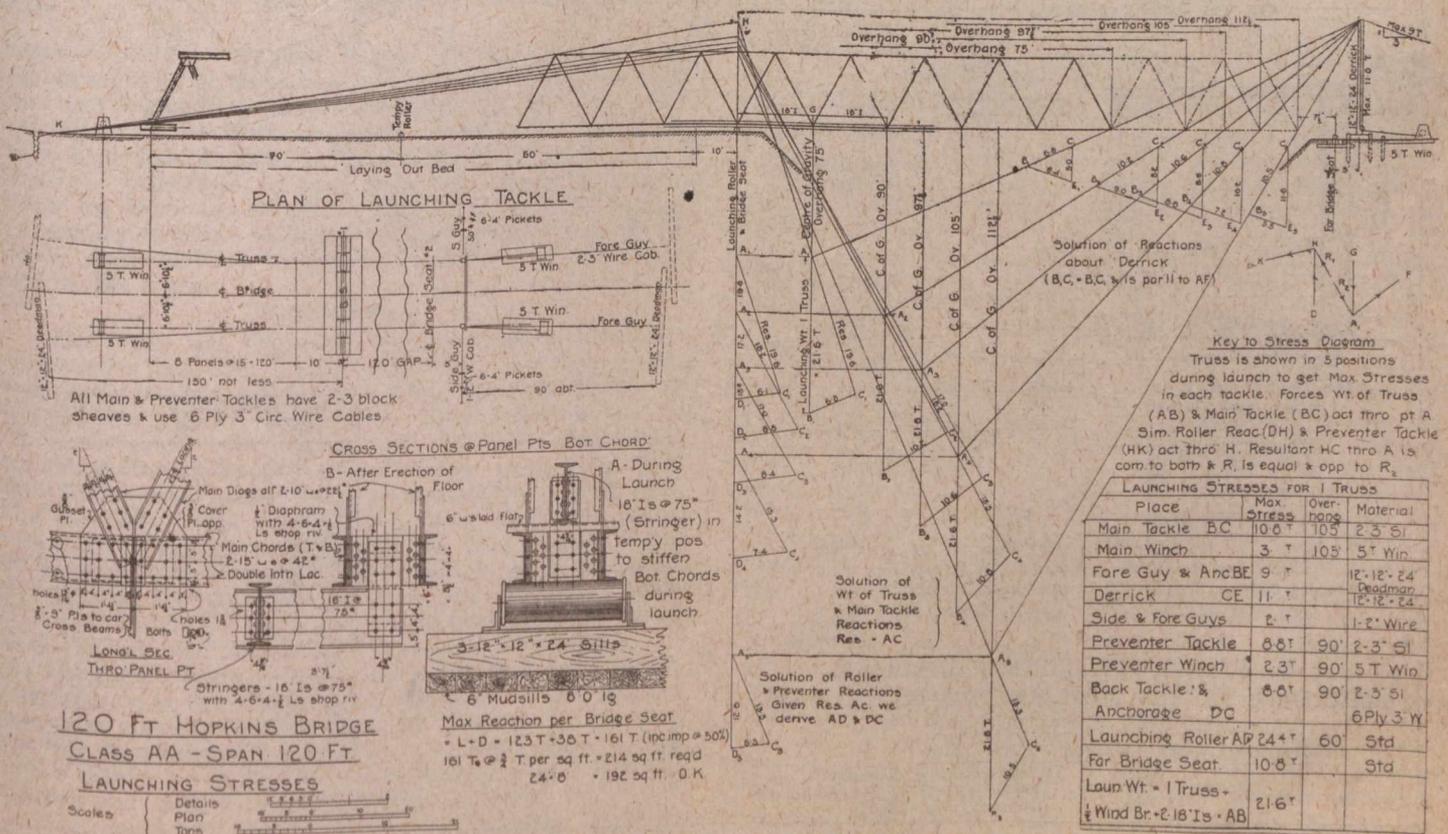


FIG. 1—STRESS DIAGRAM OF LAUNCH OF HOPKINS 120-FT. SPAN