NEW DRAFT

# EIGHTY-SECOND LEGISLATURE

**S. P. 626** **S. D. 286**

In Senate, April 1, 1925.

Reported by Senator Case from Committee on Ways and Bridges, and laid on table to be printed under joint rules.

ROYDEN V. BROWN, Secretary.

Presented by Mr. Perkins of Orono.

## STATE OF MAINE

IN THE YEAR OF OUR LORD ONE THOUSAND NINE HUNDRED AND TWENTY-FIVE

RESOLVE, in Favor of Rebuilding Mattawamkeag Bridge over Mattawamkeag River in the Town of Mattawamkeag, Penobscot County.

Resolved: That there be and hereby is appropriated from the proceeds of the state highway and bridge loan funds which may hereafter become available for the construction of interstate, intrastate and international bridges the sum of one hundred thirteen thousand four hundred dollars to be expended in the reconstruction of Mattawamkeag bridge. Furthermore, the reconstruction of the bridge and the expenditure of the above appropriation shall be under the direction and supervision of the state highway commission.

## STATEMENT OF FACTS

The records of the War Department show that "Military Road" of which Mattawamkeag bridge is a part, was built by the U. S. Army under authority of an Act of Congress approved May 24, 1828, and that the State of Maine by a resolve approved March 8, 1834, "agreed to assume the preservation and repair from and after the first day of January, eighteen hundred and thirty-five."

In the early portion of March, 1924, the State Highway Commission was advised that portions of the floor system had been broken by log haulers operating over the bridge. An examination was made by Llewellyn N. Edwards, Bridge Engineer of the Commission, on March 14, 1924. The following paragraphs are quoted from the report of the inspection:

"An examination of the bridge superstructure gave ample evidence of the existence of unsatisfactory physical conditions caused not only by the excessive stresses produced by the operating of the log haulers upon the bridge but also by some previously existing overload or other condition of service. The existence of newly fractured members were considered as indications of the former while fractures showing ample evidence of having existed for at least three to five years, probably more, indicated the latter condition.

"Assuming the spans of the bridge to be numbered beginning at the Mattawamkeag village end, the following tabulation indicates the number of fractured floor beams, stringers, and chord splices found to exist in the structure:

| Member | Span No. 1 | Span No. 2 | Span No. 3 |
|---|---|---|---|
| Floor Beams | 2 | 6 | 2 |
| Center Stringers | 8 | 10 | 7 |
| Other Stringers | – | 3 | – |
| Top Chord Splices | 1 | 2 | 2 |
| Bottom Chord Splices | 2 | 4 | 1 |

"Remarks—Floor beams, newly fractured, 10; center stringers, newly fractured, 9; other stringers, newly fractured, 3; top chord splices, splice "lugs" sheared off; bottom chord splices, splice "lugs" sheared off.

"The stringers and floor beams were in all cases seriously weakened by the fractures. The center stringer detail renders this member a combined stringer and longitudinal strut between the floor beams. The fractures had in all cases started

at the tops of the "daps" at the ends of the stringers. In several cases both ends of stringers were fractured. The fractures in the floor beams were in practically all cases the result of excessive bending stresses.

" The fractures in top and bottom chords were with two exceptions the result of excessive shear stresses in the wooden "lugs" engaging the cast iron splicing pieces, these lugs having been sheared off from the chord pieces of which they were originally a part. The chord splices showed but little evidence of failure by the crushing of the wood in contact with the castings. Only one splice casting was found broken. Only one chord piece (Span No. 3) was found broken. This resulted from a knot located at the splice."

A repair outfit under the charge of H. E. Towne, one of the engineers of the Commission's Bridge Division, was immediately sent to Mattawamkeag and this outfit made such temporary repairs as were possible before the ice moved out of the river. The bridge is posted for a gross load of four tons.

The bridge at Mattawamkeag forms an especially important element in the transportation service of the entire portion of the state located north of this crossing of the Mattawamkeag river, there being only the bridges at Kingman, Drew and Bancroft which could be used in the event of the collapse of the bridge in question. The detouring of the traffic over these bridges would involve especially unsatisfactory conditions to all that might be involved therein.