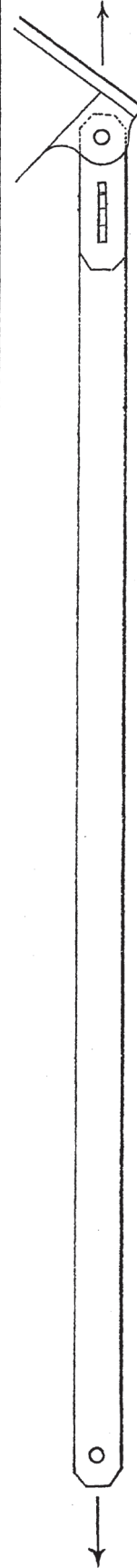


TAY BRIDGE DISASTER :

RESULTS OF EXPERIMENTS TO ASCERTAIN THE RESISTANCE TO EXTENSION AND RUPTURE, UNDER A GRADUALLY INCREASED PULLING STRESS OF COLUMN-LUGS ATTACHED WITH BOLT TO TIE-BARS AND COUPLING-LINKS AND COLLARS, RECEIVED PER HENRY LAW, ESQ., C.E.

Test No.	Description.	Total Stress on Lugs and Links in Pounds.—Extension Inch.																			Ultimate Stress.	Position of Fracture.											
		10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	26,000	28,000	30,000	32,000	34,000	36,000	38,000	40,000	42,000	44,000	46,000			48,000	50,000	52,000	54,000	56,000	58,000	60,000	Ultimate Extension.	When Links broke.	When Lugs broke.	
0																																	
1865	No. 4 bottom lugs	.091	.112	.164	.191	.246	.292	.355	.422	.464	.512	.555	.624	.662	.729	.764	.802	.844	.891	.944			lbs.	.976	46,888	Two lugs, unsound, and bolt broken.							
1865	Do.	.052	.075	.100	.138	.160	.180	.202	.229	.255	.288	.306	.338	.362	.398	.430	.452	.489	.520	.552	.586	.639	.684	.750	.894			lbs.	.862	56,124	Two lugs, sound.		
1872	No. 6 bottom lugs	.060	.080	.105	.135	.162	.186	.206	.231	.256	.276	.302	.329	.351	.375	.400	.431	.456	.490	.521	.558			lbs.	.568	48,202	Do. do. unsound.						
1872	Do.	.068	.085	.128	.154	.178	.204	.230	.258	.280	.305	.336	.360	.382	.415	.440	.471	.506	.545			lbs.	.389	45,944	One do. do. and one link at hole.								
1872	Do.	.057	.071	.107	.130	.156	.180	.206	.232	.256	.284	.310	.334	.368	.397	.425	.462	.500	.538	.570	.615	.655			lbs.	.702	50,848	One lug, sound, and one link at hole.					
1859	No. 3 top lugs	.110	.128	.141	.160	.184	.200	.224	.245	.264	.288	.312	.336	.366	.390	.425	.455	.482	.520	.550	.590	.628	.672	.728	.785	.833			lbs.	.888	59,452	Two links at holes.	
1869	Do.	.114	.143	.172	.194	.216	.260	.292	.306	.328	.361	.380	.404	.430	.460	.487	.516	.550	.578	.619	.652	.690	.728	.755			lbs.	.796	55,912	Do.			
1859	Do.	.092	.121	.188	.150	.162	.186	.210	.239	.251	.273	.291	.320	.344	.368	.391	.422	.455	.484	.516	.548	.581	.627	.660	.700	.742	.841			lbs.	.844	60,044	Two lugs, sound.
1878	No. 7 top lugs	.064	.076	.094	.126	.144	.180	.198	.226	.258	.276	.314	.333	.366	.390	.414	.440	.472	.504	.538	.572	.612	.650			lbs.	.690	53,728	Two lugs, sound.				
1878	Do.	.060	.078	.106	.130	.160	.190	.217	.248	.266	.290	.320	.344	.370	.396	.416	.448	.488	.515	.554	.593	.644	.683	.735	.781	.826	.875			lbs.	.912	60,715	Do.
1878	Do.	.060	.084	.122	.154	.178	.212	.246	.270	.298	.322	.360	.389	.420	.444	.487	.506	.538	.560	.608	.630			lbs.	.665	49,184	Do.						
1884	No. 8 top lugs	.065	.090	.114	.142	.170	.200	.235	.274	.310	.348	.375	.416	.426	.478	.508	.550	.588	.610	.647	.675	.704			lbs.	.736	51,796	One lug, unsound.					
1884	Do.	.068	.100	.127	.150	.176	.202	.230	.254	.280	.304	.330	.356	.379	.403	.425	.450	.476	.500	.532	.560	.590	.628	.651	.698	.730			lbs.	.755	58,588	Two lugs, sound.	
1884	Do.	.069	.098	.118	.148	.179	.205	.230	.260	.283	.315	.345	.378	.406	.432	.454	.472	.504	.534	.556	.588	.625	.650	.688	.720			lbs.	.748	57,488	Do.		



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