On each car track a concentrated load of 24 tons evenly divided between two axles, spaced 10 feet centre to centre with wheels spaced 5 feet centre to centre on axles, shall be assumed to occupy a width of 6 feet on each side of the centre line; on the remaining floor surface, exclusive of sidewalks, a uniform load of 125 pounds per square foot and on sidewalks a uniform load of 100 pounds per square foot.

For the trusses of spans between 50 feet and 100 feet in length, a uniform load of 1,800 pounds per linear foot for each car track (assumed to occupy a width of 12 feet) and 100 pounds per square foot of remaining floor surface including sidewalks, shall be assumed. For the trusses of spans greater than 100 feet in length, the live load per linear foot for each car track and per square foot of remaining floor surface may be reduced, respectively, 50 pounds and 2 pounds for each additional 10 feet of span, provided that in no case shall these loads be reduced below 1,200 pounds and 80 pounds, respectively.

All class A bridges shall be assumed as also subject to the loading specified for class B bridges.

Class B.—For the floor and its supports and for the trusses of spans less than 50 feet in length, the live load shall be assumed as follows:

On any part of the floor surface a concentrated load of 15 tons on two axles spaced 8 feet centre to centre, with wheels spaced 6 feet centre to centre on axles two-thirds of the load on one axle, shall be assumed to occupy a space 16 feet in the direction of traffic by 12 feet at right angles to that direction. On the remaining floor surface, exclusive of sidewalks, a uniform load of 125 pounds per square foot and on sidewalks a uniform load of 100 pounds per square foot, shall be assumed.

For the trusses of spans between 50 feet and 100 feet in length a uniformly distributed load of 100 pounds per square foot of floor surface shall be assumed. For the trusses of spans greater than 100 feet in length the uniform load per square foot may be reduced 2 pounds for each additional 10 feet of span, provided that in no case shall the assumed live load be less than 80 pounds per square foot of floor surface.

Distribution of Stresses Due to Concentrated Loads.—In considering the concentrated load under Class A, each wheel load shall be assumed distributed over an area of floor surface 5 feet square. In considering the concentrated load under class B, each wheel load shall be assumed distributed as follows: For reinforced concrete floors, protected by a wearing surface, 3 feet in the direction of traffic by 5 feet at right angles to that direction; for wood floors at least 3 inches thick the distribution in the direction of traffic shall be neglected in designing the joists and the distribution at right angles to the direction of traffic shall be taken as 4 feet.

The top lateral bracing in deck bridges and the bottom lateral bracing in through bridges shall be designed to resist a lateral wind load of 300 pounds per linear foot, and one-half of this shall be treated as a moving load.

The bottom lateral bracing in deck bridges and the top lateral bracing in through bridges shall be designed to resist a lateral wind load of 150 pounds per linear foot.

Provision shall be made for stresses due to a change in temperature of 150°F.

For class A bridges provision shall be made for a longitudinal force equal to 20 per cent. of the weight of the heaviest electric train which could reasonably be expected to come upon the bridge.

Impact and Centrifugal Force.—The maximum live-load stress in each member shall be increased to provide for impact by an amount to be determined from the formula $I = \frac{100\,S}{L + 300}$, where

I = impact or dynamic increment due to the effect of moving loads;

S = computed live-load stress; and

L = loaded length of bridge in feet which produces maximum live-load stress in the member under consideration.

When curved tracks occur on class A bridges, the centrifugal force produced by two cars coupled together moving at 50 miles an hour shall be considered as an additional live load in designing the lateral bracing.

Proportions and Unit Stresses.—All members shall be so designed that the stresses coming upon them may be accurately computed, and shall be so proportioned that the sum of the maximum stresses produced by the loads herein specified shall not exceed the following amounts in pounds per square inch.

Axial tension on net section—16,000; axial compression on gross section—$16{,}000 - 70\frac{l}{r}$, where l is the length of the member in inches and r is the least radius of gyration of its cross section in inches.

For class A bridges no compression members shall have an unsupported length exceeding 100 times its least radius of gyration for main members, or 120 times its least radius of gyration for laterals. For class B bridges no compression member shall have an unsupported length exceeding 120 times its least radius of gyration for main members, or 140 times its least radius of gyration for laterals.

Bending stresses on extreme fibres of rolled floor beams, joists, and girders, 12,500; on extreme fibres of built-up girders, 16,000; and on extreme fibres of pins, 20,000.

Shearing—	
Pins and shop-driven rivets	10,000
Field-driven rivets	7,500
Plate-girder webs (gross section)	9,000
Bearing—	
Shop-driven rivets	20,000
Pins and field-driven rivets	15,000
Wall plates on concrete masonry (1:2½:5)	500
Wall plates on stone masonry (ashlar)	500
Wall plates on stone masonry (rubble)	400
Expansion rollers (per lineal inch)	500d

where d is the diameter of the roller in inches.

Alternate Stresses.—Members subject to alternate tensile and compressive stresses shall be proportioned to resist each kind of stress, and each stress shall be considered as increased by an amount equal to eight-tenths of the smaller stress in determining the sectional area. The connections shall be proportioned for the arithmetical sum of the stresses.

Combined Stresses.—Members subject to a combination of direct and bending stresses shall be designed so