The figures given in the following tables are considered safe maximums for usual cases, and are recommended for adoption only in default of specific information from the responsible engineer.

Impact.—The function of the so-called impact allowance is twofold. Firstly, to take care of actual increases in the magnitude of the applied load liable to occur at infrequent intervals. Secondly, to make provision for the increased stresses due to dynamic application of the loads. To the uniformly distributed loads described above only the first aspect of impact will apply, and insomuch as same maximum figures are recommended for adoption no further increment for use at normal unit stresses is considered necessary. To concentrated wheel loads both aspects of impact may be presumed to apply, and a simple percentage of the static load is suggested as the increment. It is believed that the effects of the dead load and the length of the span affected are suitably provided for in this percentage, insomuch as the concentrated loads will in general govern floor members only, and the type and weight of floor will bear some sensible relation to the magnitude and ferocity of the wheel loads.

Table of Live Loads .- i. For floor stringers, crossbeams, hangers, and any members of trusses and girders where concentrated wheel loads govern the sections.

	Street Trucks, etc.
Uniform load.	cars. See Dia. D.
Class 1 100 lbs. per sq. ft.	Dia. A 2-15 ton along- side or following
Class 2 100 lbs. per so. ft.	Dia B I-15 ton
Class 3 100 lbs. per sq. ft.	Dia. Bor C 1-10 ton
5	(if any)
Class 4 80 lbs. per sq. ft.	None I-6 ton
Class 5 60 lbs. per sq. ft.	None I-4 ton
2. For trusses and girders—	
Uniform load.	Street cars
Class I.	Street cars.
100 lbs. per sq. ft. up to	2.400 lbs per ft per track
200 ft., thence diminish-	for freight cars 2,000 lbs.
ing arithmetically to a	per ft per track for pas-
minimum of 75 lbs. at	senger cars
400 ft.	enger ours.
Class 2.	
100 lbs. per sq. ft. up to	2 000 lbs per ft per track
100 ft., thence diminish-	-,000 ibs. per n. per maon.
ing arithmetically to a	
minimum of 60 lbs. at	
300 ft.	
Class 2	
80 lbs per sa ft up to	t 600 lbs per ft per trock
100 ft. thence diminish-	if any
ing arithmetically to a	in any.
minimum of 50 lbs at	
200 ft.	
Class 4.	
80 lbs, per so ft up to	None
80 ft., thence diminish-	None.
ing arithmetically to a	
minimum of 50 lbs at	
200 ft.	1
Class #	
60 lbs par so ft up to	None
60 ft thence diminish-	ivone.
ing arithmetically to a	
minimum of to the ot	
too ft	
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Scope and Combination of Loads .- Uniform live loads shall be applied to full width of road surface between wheel guards and on sidewalks to the maximum clear width available for traffic. The assumed equivalent uniform live load for street cars shall be applicable to the whole length of the trackage on the span or any portion thereof. Each street car track shall be assumed to occupy 10 feet width of roadway. The following combinations shall be considered possible :---

Street car loads and other concentrated or uniform loads for floor beams and hangers.

Street car loads and half uniform load on remainder of floor surface for trusses of Classes 1, 2 and 3.

When sidewalks are carried on brackets outside of the main trusses provision shall be made in the trusses for the cantilever effect of loading one sidewalk and the full load surface between trusses with 75 per cent. of the specified uniform loading.

Impact .- The percentages of the live load from wheel concentrations to be added for impact will be as follows :-

To stringers, 40 per cent.

To floor beams and hangers and other truss members affected, 20 per cent.

The intention is that each of the branches of the Society shall discuss the suggestions as outlined, and submit whatever criticism they see fit. After that has been done the committee will consider all such criticisms and make their final recommendations at the annual meeting.

## DRYDOCK FOR VANCOUVER.

An Ottawa dispatch says :- Arrangements have been completed for the construction of a large floating drydock at Van-couver. The structure will be a 16,000-ton, double-section dock, capable of handling a boat of 18,000 tons, which is the measure of maximum requirements on the Pacific to-day. The company is the Vancouver Drydocks, Limited, with Mr. Charles Meek, of Vancouver, as the moving spirit. Bonds to the amount of two million dollars have been sold to Breed, Elliott & Harrison, of Cincinnati. A ship repair and ship-building plant is a part of the plan decided upon. Contracts for construction and machinery are being let, and the com-pany announces that it will have the dock in operation within a year. There will be subsidy aid from the governments of both the Dominion of Canada and the province of British Columbia, on the ground that the dock will be a commercial and naval asset.

Steamers sailing from Canadian ports on the Pacific at present are forced to dock for repairs at Hong Kong, at Kobe, Japan, or in Australia.

Water-power to the extent of 100,000 horse-power, for the generation of electrical energy, is about to be used at Telemarken, in Norway, by a Franco-American syndicate for electro-technical works.

A considerable impetus has been given to the mining in India of wolfram ore for the recovery of tungsten. Last year the total output was 2,645 tons—an increase of 13 per cent., and the value increased by 56.2 per cent.

Hydro-electric power plants are in existence in many places in South America. The Rio de Janeiro Tramway, Light and Power Company has a 50,000 horse-power plant fifty miles distant from the city. The Companhia Brazileirade de Energica Electrica, in Rio, has rights to supply power up to 150,000 horse-power. The main turbines are on the Piahanha River, while a power-house on the Itatinga Falls produces 60,000 horsepower. The harnessing of the San produces 60,000 horsepower. The harnessing of the San Francisco River has been contemplated, the Paulo Affonso Falls being calculated to yield 5,000,000 kilowatts. In 1913 the Germans supplied water-power plant to the value of £68,000 to South America.