

STABILITY OF TRAINS ON NARROW-GAUGE LINES.

In considering the question of narrow-gauge railways for a rather windy country like New Zealand very careful attention must be given to the matter of the stability of the rolling-stock under wind-pressure on such lines. This applies more particularly to passenger-cars and covered goods-vans, and appears to be the most serious objection to constructing railways of so narrow a gauge as 2 ft. where there is likely to be considerable passenger traffic. The passenger-cars on some 2 ft. gauge French lines could be blown over with about half the wind-pressure that would overturn the saloon-cars at present in use on the New Zealand Railways. These French cars weigh about $3\frac{1}{2}$ tons, and the ratio of full passenger-load to weight of cars is 4 to 9, while for the present New Zealand saloon-cars it is 1 to 8. Cars as light as the French type would be unsafe for 2 ft. gauge lines through most if not all the districts in New Zealand where such lines are likely to be constructed. The rolling-stock could, however, be constructed to carry as much permanent loading as would make the cars as safe under wind-pressure as the cars now in use on our 3 ft. 6 in. lines. This can easily be done, and at the same time the ratio of full passenger-load to weight of car be kept quite as high as for our existing cars. This, of course, would mean that part of the advantages claimed for narrow-gauge lines—namely, greater possible paying-load per ton of rolling-stock run—would have to be sacrificed; but any such possible advantage must clearly give place to the assured safety of the travelling public.

In some countries of Europe where narrow-gauge railways are in use it has been found necessary to stop by legislative enactment the running of trains on such lines during high winds. In the Duchy of Mecklenberg, for example, a regulation exists forbidding the running of trains on the Ferdinandshof to Friedland 2 ft. gauge railway when the velocity of the wind exceeds nine miles an hour. New-Zealanders, unlike the Germans, would not, I fear, be content to wait for calm weather to travel in, but the loading of the cars, as suggested above, would obviate the necessity for any such vexatious restrictions.
