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cepted, probably, more by long experience than by any direct experiments upon train resistances—must be attributed chiefly to the employment of bogie rolling-stock, central buffers with loose couplings and oil-tight axle-boxes, which latter are always lined with an excellent bearing alloy. I have had some conversation, on the subject of locomotive performances, with one of the leading railway engineers in the States, and although the theories then advanced may not universally be accepted as infallible, yet they carry such weight with them that it will be well to enumerate them here. These points, which are independent of train resistances, refer essentially to the great steaming power of the American locomotive boilers, and to the manner in which these boilers are being worked and fed. The quick steam-generation is mainly due to three causes, viz., the intensity of the fire, the thinness of the plates composing the fire-box, and the extremely forced draught. By these means a boiler of moderate proportions and heating surface is worked up—though at a more rapid rate of combustion—to an extent never attempted abroad. The injector has been condemned by the Americans as being an expensive boiler-feeder. Counter pressure steam-brakes are equally unpopular out here, but each swivelling truck under the train, with the exception of the leading engine bogie, is always furnished with a hand-brake.

Great activity prevails in American railway matters, and all the locomotive works are consequently very busy. I understand that Messrs. Baldwin, of Philadelphia, will have turned out not less than 200 locomotives during the last twelve months. Locomotive building on this continent must, indeed, have made great progress of late, as verified by the perfect organization of the workshops and the systematic manner in which the work is turned out. In general, my visit to this great country has made a lively impression on me, which, I am sure, will be shared by most impartial critics, that, in the specialty of locomotive construction the Americans are fully equal, if not ahead, of the best European practice.

I remain, Sir, yours faithfully,

A. BRUNNER.

Montreal, January 1, 1871.