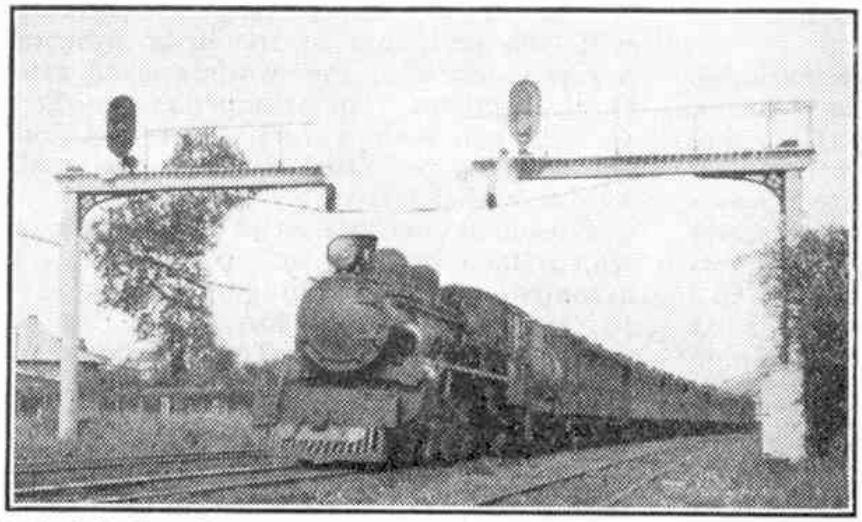
Fast Running in New Zealand

By T. A. McGavin

THE overall average speed of 30 m.p.h. for the crack expresses of New Zealand, quoted by "*A Railway Engineer*" in his article in the October 1941 issue of the "*M.M.*" does not suggest that any very high speeds are attained. Indeed, on the main lines of New Zealand speed is limited to a nominal maximum of 50 m.p.h.; but although the coupled wheels of the express passenger "Pacific" engines are only 4 ft. 6 in. in diameter, some considerably faster running is made at times, and on two recent journeys of mine speeds of well over 60 m.p.h. were attained. The first of these was on the Woodville-Wellington mail by one of the "A" class 4-cylinder compound "Pacifics," first introduced in 1906-7, hauling a load of 215 tons. It was in the 28.3 miles between Masterton to Cross Creek that the most notable work was performed; here a start-to-stop run of 8.9 miles in 11¾ minutes included a top speed of 63 m.p.h. down a moderate gradient, and another short run of 4.9 miles was done, start to stop, in 7½ minutes with a maximum speed of 59 m.p.h.

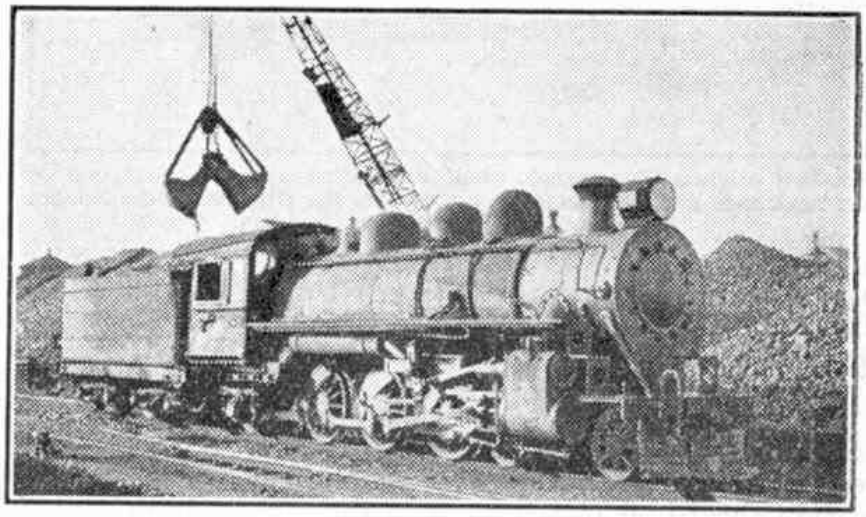


A typical New Zealand express, hauled by a Class "'Ab' Pacific" engine. Note the colour-light signals. Photograph by W. W. Stewart.

The most extraordinary work was however reserved for the last stage, which includes a very steep climb at 1 in 40. The train was banked on this ascent, but the assistant engine came on, not at the foot of the incline, but at Featherston, and prior to the heavy collar work there was a fast stretch to be covered. The bank engine was a 2-6-4 tank, of Class "Wf," with 3 ft. 9 in. coupled wheels, but in spite of this the train went spinning down to Pigeon Bush, on steeply falling gradients, at 60 m.p.h. This short initial run of 4.1 miles took only 5½ minutes, start to stop. A speed of 60 m.p.h. is of course extraordinary with 3 ft. 9 in. wheels; this is equivalent, in revolutions per minute, to 104 m.p.h. on a typical British express locomotive having 6 ft. 6 in. coupled wheels. On the 1 in 40 gradient up to Cross Creek the two engines sustained 20 m.p.h.—another very good performance.

The second run was made in the South Island, on the Invercargill-Lyttleton express, with one of the Class "Ab" 2-cylinder simple "Pacific" engines. These are rather more powerful than the compounds, but even so have only 32¾ tons adhesion weight, compared with the 60-66 tons of British "Pacifics." The load was quite a heavy one of 370 tons, and the high-speed running this time was made over only moderate falling gradients, in the 17.8 mile run from Burnham to Christchurch. The steepness of descent varies, averaging about 1 in 400 for much of the way, though including odd half miles as steep as 1 in 220; even this latter however is less than the famous Stoke bank, in England, where so many great L.N.E.R. speed records have been made.

Before Burnham some very good running had been accomplished, with a time of only 22¼ minutes, start to stop, for the 17.7 miles from Rakaia; this section included a top speed of 60 m.p.h. The finest work came, however, after the restart from Burnham. Speed was up to 50 m.p.h. in just over 4 miles from the start, and then an average of 57½ m.p.h. was kept up for 11 miles. This included a maximum speed of no less than 64 m.p.h., reached within one mile of a station called Hornby. The result of this fine running was that Addington station, 16½ miles from the stop at Burnham, was passed in 20¼ minutes, though a cautious approach to Christchurch made the last 1.3 miles take 3 minutes to the stop. This was an excellent piece of work, though certainly not an everyday performance.



A New Zealand "Pacific" of Class "Aa," built by Baldwin Locomotive Co., U.S.A., in 1914. Photograph by Hugh Bennett.

Another fast spell I noted was on the Wellington-New Plymouth express, when one of the big Class "Ka" 4-8-4s, with a load of 405 tons, averaged 51¾ m.p.h. for 13 miles, including a maximum of 60 m.p.h.; also another in the South Island, with a pair of Class "'Ab' Pacifics" on a 470-ton train, which ran at 50-55 m.p.h. for 25 miles on end.