

RESULTS OF TESTS—continued.

No. of Test.	Speed of Car.		Elapsed Time: Seconds.	Length of Stop: Feet.	Mean Retardation.		Grade, 1 in	Acceleration due to Gravity: Feet per Second ² .	Total Retardation of Car: Feet per Second ² .	Retardation due to Car resistance: Feet per Second ² .	Total Retardation due to Brakes: Feet per Second ² .	Mean Retarding force of Brakes: per Cent. Car-weight.	Sand.	Remarks.
	Miles per Hour.	Feet per Second.			By Time: Feet per Second.	By Distance: Feet per Second ² .								

TABLE 18.

Brake-test at Dunedin. Dates: Nos. 9-13, 17th May, 1910; Nos. 31-33, 18th May, 1910. Location: Anderson's Bay Road. Type of brake used: Newell magnetic. Type of car: Combination, No. 20. Weight of car (total): 30,422 lb. Description of test: Emergency.

9	20.6	30.15	4.2	81.0	7.17	5.62	155.3	0.206	5.826	0.32	5.506	17.20	Yes	Rail good.
10	22.5	33.00	4.8	83.0	6.88	6.55	155.3	0.206	6.756	0.32	6.436	20.15	"	"
11	24.0	35.20	5.2	101.0	6.76	6.13	155.3	0.206	6.336	0.32	6.016	18.80	"	"
12	22.1	32.40	4.6	83.0	7.05	6.33	155.3	0.206	6.536	0.32	6.216	19.43	"	"
13	23.2	34.00	4.6	91.0	7.40	6.35	155.3	0.206	6.556	0.32	6.236	19.50	"	Slight skid.
31	23.2	34.00	5.4	121.5	6.30	4.75	155.3	0.206	4.956	0.32	4.636	14.50	No	Flash and skid.
32	22.6	33.10	4.4	85.5	7.52	6.40	155.3	0.206	6.606	0.32	6.286	19.60	Yes	Rail good.
33	22.7	33.25	4.6	92.5	7.23	5.95	155.3	0.206	6.156	0.32	5.836	18.20	"	"
Mean	..	..	..	..	..	..	..	..	6.220	..	5.890	18.42	..	..

TABLE 19.

Brake-test at Dunedin. Date: 18th May, 1910. Location: St. Kilda Road. Type of brake used: Newell magnetic. Type of car: Combination, No. 20. Weight of car (total): 30,422 lb. Description of test: Emergency.

14	16.8	24.60	3.8	61.42	6.46	4.93	3,121	+ .01	4.94	0.32	4.62	14.40	Yes	Rail good.
15	16.1	23.60	3.8	58.00	6.20	4.80	3,121	+ .01	4.81	0.32	4.59	14.30	"	"
16	12.0	17.60	3.4	41.75	5.17	3.72	3,121	+ .01	3.73	0.32	3.41	10.68	No.	"
17	19.1	28.00	4.8	80.50	5.84	4.87	3,121	- .01	4.86	0.32	4.54	14.20	"	"
18	14.5	21.25	3.4	43.50	6.24	5.18	3,121	- .01	5.17	0.32	4.85	15.20	Yes	"
19	15.0	22.00	3.4	39.50	6.45	6.14	3,121	- .01	6.13	0.32	5.81	18.20	"	"
20	16.8	24.65	3.8	53.75	6.48	5.64	3,121	+ .01	5.65	0.32	5.33	16.60	"	"
21	7.0	10.28	2.8	16.25	3.66	3.17	3,121	+ .01	3.18	0.32	2.86	8.95	"	"
22	6.0	8.80	2.0	9.75	4.40	3.97	3,121	+ .01	3.98	0.32	3.66	11.40	"	"
23	17.0	24.90	4.4	61.50	5.66	5.04	Level ..	..	5.04	0.32	4.72	14.72	"	"
Mean	..	..	..	..	..	..	..	..	4.75	..	4.44	13.80	..	..

TABLE 20.

Brake-test at Dunedin. Date: 18th May, 1910. Location: Anderson's Bay Road. Type of brake used: Newell magnetic. Type of car: Combination, No. 20. Weight of car (total): 30,422 lb. Description of test: Emergency.

38	17.0	24.9	6.4	77.0	3.89	4.30	50.30	- .636	3.664	0.32	3.344	10.42	No	Second emergency.
39	17.2	25.2	7.6	111.0	3.32	2.86	155.35	- .206	2.654	0.32	2.334	7.30	Yes	Third emergency.