Immediately upon completion—Oct. 31, 1902—of the British Pacific Cable, Canada made preparations to extend her longitude determinations, which had been carried from Greenwich to Vancouver across the Pacific, thereby making with the longitude carried eastward via. Madras, a continuous longitude circuit round the world. The writer was placed in charge of the work and with him was associated Mr. F. W. O. Werry, B.A. Each observer was provided with similar astronomic outfits, and at each station occupied, a brick or cement pier was built and a small observatory erected. Mr. Werry occupied Fanning and Norfolk inlands, and the writer Vancouver; Suva, Fiji; Southport, Brisbane and Sydney, Australia; Doubtless Bay and Wellington, New Zealand.

Every night during the campaign the observers compared their clocks over the cable. The comparison was made with an accuracy of two thousandths of a second. By this comparison is measured too the time it takes for a signal to travel over the cable. This of course varies with the distance. On the longest section, over four thousand statute miles, it took thirty-four hundredths of a second, or say a third of a second from the minute a clock ticked at one end, until it recorded in ink that tick at the other end. The following table is self-explanatory.

Section.	Length of cable laid. Naut. miles.	Pounds of copper and gutta percha per naut. mile	Electro-motive force. Volts.	Resistance per naut. mile. Ohmes	Transmissions Sec. Time.	Rate per second. Statute miles.
					s	
Bamfield—Fanning	3457.8	600 / 340	50	2.03	.3422	11,600
Fanning—Suva	2043.1	220 / 180	55	5.54	.2807	8,100
Suva—Norfolk	981.5	130 / 130	30	9.35	.1404	8,000
Norfolk—Southport	836.7	130 / 130	30	9.35	.1016	9,800
Norfolk—Doubtless Bay	518.7	130 / 130	10	9.35	.0528	11,300

The comparison of the clocks combined with the clock correction determined by each observer from tourist observations on stars, gives the difference of longitude between the