TABLE F.

Insulation Tests of the Cook Strait Cable for the Years ended 30th June, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, and 1878 respectively, showing the Resistance per knot after Two Minutes' Electrification in Megohms (British Association Units of Resistance).

Date.	No. 1 Wire.	No. 2 Wire.	No. 3 Wire.
1867—			
Sept. 1	473	71	554
Sept. 30	634	102	634
Oct. 14	547	179	620
Nov. 1	598	32·6	667
Nov. 14	574	10·6	643
Dec. 2	608	10·5	709
1868—			
June 7*	930	5·5	1,094
Sept. 11	630	22·5	946
Sept. 17	697	63·5	1,000
1869—			
March 27	467	26	729
April 19	483	30	748
May 11	562	31	950
May 17	531	14	963
June 22	522	15	931
July 27	649	9	1,104
Aug. 24	667	7	1,200
Sept. 27	754	13	1,275
Oct.† ...	...	...	...
Nov. 8	582	5	1,253
Dec. 3	638	2·5	1,159

Date.	No. 1 Wire.	No. 2 Wire.	No. 3 Wire.
1870—			
Jan. 22	526	2	865
Feb. 22	417	3	707
March 18	442	3·4	967
March 20	344	3·06	619
April 26	430	8·6	812
May 31	456	·446	871
June 26	355	2·3	622
July 16	517	·393	893
Aug. 16	473	1·7	763
Sept. 17	508	8·7	1,108
Oct. 20	471	5·5	1,069
Nov. 21	505	10·2	1,149
Dec. 21	480	7·7	1,121
1871—			
Jan. 21	574	6·7	1,312
Feb. 21	565	2·0	1,173
March 23	497	2·39	1,166
April 24	508	1·85	1,003
May 23	489	2·08	955
June 24	717	1·28	1,288
July† ...	...	...	...
Aug. 25	751	1·36	1,444

Date.	No. 1 Wire.	No. 2 Wire.	No. 3 Wire.
1871—			
Sept. 25	517	1·31	1,123
Oct.† ...	...	...	...
Nov. 23	641	2·65	1,481
Dec. 28	570	9·98	1,079
1872—			
Jan. 27	579	8·29	981
Feb. 27	596	9·5	1,073
March 31	676	18·5	938
April 25	553	39·1	979
May 28	649	44·4	1,173
June 22	687	49·6	1,146
July 23	826	65·6	1,476
Aug. 19	818	88·5	1,735
Sept.† ...	...	...	...
Oct. 22	709	173	1,331
Nov. 20	763	208	1,156
Dec. 30	867	220	1,561
1873—			
Jan. 24	642	10·3	1,307
Feb. 24	578	18·1	1,271
March 25	611	24·8	1,420
April 23	585	21·0	1,272

Date.	No. 1 Wire.	No. 2 Wire.	No. 3 Wire.
1873—			
May 23	505	29·7	1,231
June 23	611	50·0	1,203
July 24	628	61·3	1,159
Aug. 23	717	68·3	1,564
Sept. 23	609	57·2	1,193
Oct. 21	569	182·1	1,214
Nov. 22	695	347·5	1,429
Dec. 24	554	389·5	1,312
1874—			
Jan. 24	592	314·3	1,438
Feb. 24	551	280·7	1,217
March 25	559	371·5	1,106
April 24	579	356·4	1,303
May 23	551	398·0	1,115
June 27	607	96·1	1,227
July 24	682	75	1,365
Aug. 29	771	530	1,564
Sept. 24	643	69	1,483
Oct. 26	944	28	1,928
Nov. 24	849	18	1,882
Dec. 23	650	84	1,060
1875—			
Jan. 23	883	94	1,695

Date.	No. 1 Wire.	No. 2 Wire.	No. 3 Wire.
1875—			
Feb. 23	764	44	1,274
March 24	719	30·4	1,277
April 23	636	37·6	1,139
May 22	712	41·7	1,274
June 24	562	41·9	1,064
July 24	749	120·	1,453
Aug. 24	679	165·	1,251
Sept. 24	812	161·	1,781
Oct. 23	692	187·	1,264
Nov. 24	622	205·	1,391
Dec.‡ ...	...	...	...
1876—			
Jan. 30	291	·649	584
Feb. 24	407	2·886	680
March 24	445	·623	715
April 24	355	·154	436
May 11	308	·385	379
May 24	407	·736	524
June 26	333	·199	416
July 24	398	·178	493
Aug. 24	354	·166	490
Sept. 25	380	·274	475

Date.	No. 1 Wire.	No. 2 Wire.	No. 3 Wire.
1876—			
Oct. 24	575	3·095	843
Nov. 24	620	·151	786
Dec. 23	370	·357	460
1877—			
Jan. 24	313	·130	360
Feb. 24	347	·365	418
March 24	584	·826	717
April 24	379	·313	545
May 24	363	·222	386
June 23	396	·211	432
July 24	453	·258	501
Aug. 24	435	·280	474
Sept. 24	460	·338	464
Oct. 24	464	·294	452
Nov. 24	436	·374	423
Dec. 24	408	·182	403
1878—			
Jan. 24	578	·774	634
Feb. 23	365	·442	368
March 23	411	·502	419
April 24	377	·273	387
May 24	402	·231	423
June 24	410	·470	414

* This test was taken with zinc to earth; all the others with copper to earth. † No tests taken. ‡ Cable broken.

TABLE G.

Insulation Tests of Second Cook Strait Cable for the Years ended 30th June, 1877 and 1878, showing the Resistance per knot after two Minutes' Electrification in Megohms (British Association Units of Resistance).

Length of Cable Laid, 44·315 Knots.

Date.	Dielectric Resistance per Knot.		Copper Resistance per Knot in Ohms.	Inductive Capacity per Knot in Microfarads.	Remarks.
	Five Cells.	Fifty Cells.			
March 12, 1877 ...	...	2,870	11·5085	·3385	First test taken immediately after laying.
„ 24 „ ...	3,341	2,141	...	...	
April 24 „ ...	4,000	2,857	...	·3351	
May 24 „ ...	...	2,347	...	...	
June 23 „ ...	2,689	2,674	...	...	
July 24 „ ...	3,134	2,833	...	...	
August 24 „ ...	2,613	2,538	...	...	
September 24 „ ...	3,964	2,834	...	...	
October 24 „ ...	3,014	2,813	...	...	
November 24 „ ...	2,545	2,358	...	...	
December 24 „ ...	2,085	2,251	...	...	
January 24, 1878 ...	3,227	2,126	...	...	
February 23 „ ...	2,096	1,887	...	...	
March 23 „ ...	2,396	1,897	...	...	
April 24 „ ...	2,323	1,727	...	...	
May 24 „ ...	2,052	1,777	...	...	
June 24 „ ...	1,992	1,777	...	...	