

INDEX OF THE BOARD OF LONGITUDE PAPERS AT THE ROYAL GREENWICH OBSERVATORY, PART I

ERIC G. FORBES, University of Edinburgh

The Board of Longitude was the name given to the twenty-two naval officers, statesmen, and scholars nominated in 1714 under the terms of the Act 12 Anne, cap. xv “for Providing a Publick Reward for such Person or Persons as shall Discover the Longitude at Sea”. These commissioners of longitude were empowered to examine and assess all schemes and suggestions thought likely to facilitate this discovery, and to recommend the award of large bounties or small prizes to such proposals as were deemed worthy of their encouragement. Financial and administrative matters were referred to the Admiralty Office and war-rants paid through the Treasurer of the Navy, but legally the Board was responsible solely to Parliament. One half of any of the following rewards was to be paid to the first inventor of a method which the Board had tested and judged to be generally reliable:

- £10,000 if the accuracy were within 60 (nautical) miles,
- £15,000 if the accuracy were within 40 (nautical) miles,
- £20,000 if the accuracy were within 30 (nautical) miles.

The other half would be paid as soon as a ship using that method should sail from a port in Great Britain to another in the West Indies without erring in her longitude by more than the specified amount. The maximum award was won by John Harrison for the invention of his fourth marine timekeeper (H4), and paid to him in two instalments (in 1765 and 1783) in accordance with the terms of the 1714 Act.¹

This Act had therefore to be repealed, and in 1774 the Act 14 George III, cap. lxxvi was substituted in its place. Understandably, the terms of this new Act were not framed in a manner likely to encourage others to pursue the “chronometer method” (as it was now being termed) farther, yet several talented watch-makers such as Thomas Mudge, John Arnold, Josiah Emery, and Thomas Earnshaw all submitted watches for trials at the Royal Observatory, in compliance with a newly imposed restriction on which the “accuracy” of their mechanisms—a somewhat ambiguous term—could be estimated.² An important outcome of the Board’s controversies with Mudge’s son³ and with Earnshaw⁴ over the Astronomer Royal’s rigid interpretation of the results of these trials, was the establishment of a consistent system of chronometer rating which became an essential criterion affecting the purchase of such instruments for government use.

Out of the numerous proposals for longitude determination which fill several volumes of the Board of Longitude papers, only one—the astronomical method of lunar distances—rivalled the chronometer method in accuracy.⁵ It owed its practicability to the accurate set of lunar tables constructed by the German

astronomer Tobias Mayer, transmitted to the Board in 1755 together with papers describing their use for longitude determination. An improved set of Mayer's solar and lunar tables, sent to the Admiralty by Mayer's widow in 1763 in accordance with one of her late husband's dying wishes, served as the basis of the ephemerides of the Sun and Moon, and consequently also of the lunar distance tables, in the early editions of the *Nautical almanac*.⁶ This publication, which owed its existence and continued success to the enthusiasm and energy of the Astronomer Royal Nevil Maskelyne, greatly facilitated the practical application of the method of lunars which by 1820 had reached such a state of refinement that it enabled the longitude at sea to be found generally to within three, and always to within six, nautical miles.⁷

This accuracy was, of course, due in no small measure to the availability of the extensive observational data steadily being amassed at the Royal Observatory, to the improvements of tables of refraction and parallax used in "clearing" the lunar distances, and to the high degree of precision with which the Moon's celestial co-ordinates could be observed both on land and at sea. Great advances had by then been made by instrument-makers such as John Bird⁸ and Jesse Ramsden⁹ in the technique of ruling the scale divisions of sextants and quadrants, which the Board promoted among a variety of experiments aimed at improving nautical and astronomical instruments. The addition to the Hadley octant and to sextants based on the same principle, of telescopic sights, dark glasses (to reduce glare from the Sun), a vernier scale, a tangent screw for fine adjustment, a reading lens, and sometimes even an artificial horizon, minimised the errors involved in observations at sea of the altitudes of the Sun, Moon, and stars.¹⁰ Proposals for a "marine-chair" mounted in gimbals on the deck of a ship—never a practicable invention in any case—thereby became entirely superfluous. Makers of astronomical telescopes were particularly indebted to the Board for its successful appeal to the Lords of the Treasury to remove the excise duty imposed on the manufacture of flint glass, which enabled them to persevere with their attempts to improve the quality of achromatic lenses.

Another important way in which the Board encouraged the advance of navigation and astronomy was through its employment of reputable astronomers to make suitable observations on voyages of exploration and discovery. Among those whom it paid and supplied with instruments for this purpose were William Bayly, John Crosley, William Gooch, James Inman, Abraham Lyons, and William Wales. These voyages also provided an opportunity for:

- (i) testing the reliability of chronometers under the very conditions for which they were designed;
- (ii) measuring the variation and dip of the magnetic needle both on land and at sea;
- (iii) making accurate land-based determinations of the longitudes and latitudes of places in widely separated parts of the world; and
- (iv) measuring the Earth's gravity at such places with the aid of a pendulum of the type invented by Captain Henry Kater.

The ships' log-books and the results of these astronomical and physical measurements constitute the last eleven volumes (XLIV–LIV) of the Board of Longitude papers.

An additional responsibility given to the Board in 1818 under the terms of the Act 58 George III, cap. xx was that of administering the awards allotted by Parliament to any British subject—and subsequently, to any of H.M. ships and their crews—that should discover a North-West Passage through the Hudson Straits between the Atlantic and Pacific Oceans; or to anyone who should first arrive within one degree of the North Pole. The sum of £5000 was, in fact, awarded to the officers and men of H.M. ships *Hecla* and *Griper* for having sailed within the Arctic Circle beyond the meridian of longitude 110°W.

Among the last of the important enterprises initiated by the Board was the founding of the Cape Observatory (1822), but it also became involved at about the same time in a trigonometrical survey to link the meridians of Greenwich and Paris. The request for British co-operation in this project stemmed from Davies Gilbert,¹¹ and the Board was particularly eager to comply with it since the measurement of the longitude difference between the two astronomical observatories at Greenwich and Paris was implicit in the fact that the *Nautical almanac* workers were then employing French tables as the basis of their own calculations of the lunar and solar ephemerides. It was the very encouraging results of this survey—the estimated probable error in the longitude difference was less than $\frac{1}{10}$ second (of time)—which caused the Board to undertake similar comparisons between Greenwich and each of the university towns of Oxford and Cambridge during the summer of 1826. The Board was dissolved two years later by the Act 9 George IV, cap. lxvi, having served the purpose for which it had originally been set up; although the clauses relating to the printing, publishing and vending of the *Nautical Almanac* have remained in force to this day—over two hundred years after that publication first came into circulation.

In 1957, following a report by Miss Phyllis Mander Jones from the Mitchell Library in Sydney on the relevance of the Board of Longitude papers to the early history of Australia, the Agent-General of New South Wales requested the permission of the Astronomer Royal (Sir Richard Woolley) to microfilm these documents in their entirety as part of the Australian Joint Copying Project to provide copies of documents for use, under proper safeguards, by scholars working in the southern hemisphere. A meeting was then held at the Public Record Office (P.R.O.) in London in the office of Mr B. D. Wardle, Repository and Photographic Section, attended by a representative of the Agent-General for New South Wales, together with Mr Philip Laurie (on behalf of the Astronomer Royal), and Miss Mander Jones, at which it was decided that the microfilming should be done by an authorized operator at the P.R.O., and copies made available to the New South Wales government and the Royal Greenwich Observatory (R.G.O.)—the latter reserving the copyright and a positive copy of the microfilms. The fifty-four volumes of papers were taken to the P.R.O. in two batches, and the project completed on 12 May 1958. At Mr. Wardle's suggestion, the documents were bound by the British Museum, with the approval of H.M.S.O., and returned to the R.G.O. where they can be consulted by members of the public provided that arrangements are made beforehand.¹³

Thus the primary source of information about the varied activities of one of the most important organs for the advancement of eighteenth-century science has come to be available in an accessible form to contemporary historians of science. The index which follows was prepared by the writer in 1965 to facilitate reference both to the original papers themselves and to their microfilm copies; its publication now should contribute to the dissemination of knowledge of the scope and content of these unique and fascinating documents, and reveal individual items of whose existence the majority of scholars in this field have remained totally unaware. Microfilm copies of any or all of the 54 volumes can be obtained on application to the P.R.O. Should anyone thereby be tempted to make a systematic and detailed study of the Board's work, two supplementary sources of information that ought also to be consulted are: "Compilations of minutes and orders relating to Board of Longitude", from 1713–1775 (P.R.O. Ref.: ADM 7/684) and "Papers relating to Longitude 1763–1819" (P.R.O. Ref.: ADM 49/65), both of which are to be found in the Public Record Office in Chancery Lane, London.

REFERENCES

1. Humphrey Quill, *John Harrison: the man who found longitude* (New York, 1966).
2. Eric Gray Forbes, "The origin and development of the marine chronometer", *Annals of science*, xxii (1966), 1–25.
3. Thomas Mudge, jun., *A narrative of facts relating to some time-keepers, constructed by Mr. Thomas Mudge for the discovery of longitude at sea; together with observations upon the conduct of the Astronomer Royal respecting them* (London, 1792). This libellous attack provoked the Astronomer Royal, Rev. Nevil Maskelyne, to write *An answer to a pamphlet entitled 'A Narrative of Facts', lately published by Mr. Thomas Mudge, Junior, relating to some time-keepers constructed by his father Mr. Thomas Mudge, etc.* (London, 1792). Nothing daunted, Thomas Mudge, jun. immediately retorted with *A reply to the Answer of the Rev. Dr. Maskelyne, Astronomer Royal, to A Narrative of Facts, etc.* (London, 1792).
4. Thomas Earnshaw, *Longitude. An appeal to the public etc.* (London, 1808).
5. Rupert T. Gould, *The marine chronometer* (London, 1923). This contains an introductory chapter on the various methods of longitude determination known at the beginning of the eighteenth century.
6. Eric Gray Forbes, "Tobias Mayer's Lunar Tables", *Annals of science*, xxii (1966), 105–16.
7. Eric Gray Forbes, "The foundation and early development of the Nautical Almanac", *Journal of the Institute of Navigation*, xviii (1965), 391–401.
8. John Bird, *The method of dividing astronomical instruments* (London, 1767); and *The method of constructing mural quadrants. Exemplified by a description of the brass mural quadrant in the Royal Observatory at Greenwich* (London, 1768).
9. Jesse Ramsden, *Description of an engine for dividing mathematical instruments* (London, 1777); and *Description of an engine for dividing strait lines on mathematical instruments* (London, 1779).
10. W. E. May, "Early reflecting instruments", *The nautical magazine*, no. 145 (1945), 21–6.
11. In a letter to the Foreign Secretary, Lord Londonderry, dated Paris, 25 June 1821 (*cf.* Board of Longitude, Confirmed minutes for 1 November 1821).
12. Eric G. Forbes, "The bicentenary of the Nautical Almanac (1767)", *British journal for the history of science*, iii (1967), 393–4.
13. The information contained in this paragraph is extracted from a personal communication to the writer from Mr Philip Laurie, Royal Greenwich Observatory, 12 February 1965.

Index of the Board of Longitude Papers

173

INDEX OF THE BOARD OF LONGITUDE PAPERS
AT THE ROYAL GREENWICH OBSERVATORY

P.R.O. reference numbers are given in bold figures before each volume number.

Page Nos.

- 529.** VOLUME I: *Acts of Parliament, Orders in Council, Rewards, etc.* (1714-1829)
1. Acts of Parliament, etc. (1714-1821) 4-95
 2. Recommendations about Awards (1818-19) 96-105
(From Davies Gilbert, Professor Robertson, Captain Kater?)
 3. Orders in Council, and papers relating to rewards for discovery of the North-West Passage (1819-21) 106-124
 4. Correspondence relating to the reward of £5,000 granted to the officers of H.M. ships Hecla and Griper (1820) 125-142
 5. Payment of Reward to Tobias Mayer, to his widow (1763-5) 143-155
 6. Correspondence relating to Mr Crosley's Claims for remuneration for loss of instruments, books, etc. and other payments to Mr Crosley (1797-1806) 156-178
 7. Correspondence relating to the payment of £100 for a passage from China, and other payments to Dr Inman (1804-18) 180-195
 8. Reward of £50 to Mr Wm. Hardy (1808) 196-201
 9. Reward of £150 to Henry Andrews (1815) 202-213
 10. Correspondence relating to a reward to Mr Mendoza de Rios (1815) 214-224
 11. Reward of 100 guineas to Dr Tiarks (1822) 225-228
 12. Reward of £200 to Mr P. Barlow (1824) 229-237
 13. Order in Council appointing Dr T. Young, Captain Sabine, and Mr Faraday, as members of the Resident Committee after the dissolution of the Board of Longitude (1828) 238-244
 14. Order to lay the accounts of the Board before the House of Commons (1829) 245-248
- 530.** VOLUME II: *Salaries of Members, Imprest Monies, Reports and Correspondence with Admiralty on Accounts* (1763-1829)
1. Papers relating to the payment of salaries of members of the Board 3-36
 2. Imprest money of the Board—accounts with secretaries, etc. 37-209
 3. Imprest money of Dr Maskelyne and others 210-237
 4. Imprest money of Mr Pond 238-294
 5. Reports from the Committee of the Board for examining accounts 295-344
 6. Correspondence with the Admiralty regarding the payment of accounts 345-356
- 531.** VOLUME III: *Rough Minutes of Board Meetings, Attendance of Members, etc.* (1767-1828)
1. Rough Minutes of Board Meetings Memoranda, etc. 3-173
 2. Lists of Members of the Board, and Notices of Meetings of the Board, etc. 174-237
 3. Mr Parker's resignation of the office of Secretary (1795) 238-240

- 532. VOLUME IV: *Fair Minutes—Bradley's Observations (1765–1828)***
1. Fair Minutes of Board Meetings (not complete) (1765–1828) 3–214
 2. Extracts from Minutes relating to the publication of Bradley's Observations (1791) 215–228
 3. Abstract of resolutions and proceedings relating to the recovery of Bradley's Observations (1765–77) 229–236
 4. Draft of a letter to the Duke of Portland relative to Dr Bradley's observations (1795) 237–244
 5. Proceedings of the Board regarding the recovery of Bradley's observations (1791–5) 245–272
- 533. VOLUME V: *Confirmed Minutes (1737–79)*** 1–179
- 534. VOLUME VI: *Confirmed Minutes (1780–1801)*** 1–365
- 535. VOLUME VII: *Confirmed Minutes (1802–23)*** 1–407
- 536. VOLUME VIII: *Confirmed Minutes (1823–9)*** 1–63
- 537. VOLUME IX: *Letter Book, etc. (1782–1810)*** 1–127
- 538. VOLUME X: *Committee Papers, etc.; Reports on Communications, etc. (1784–1826)***
1. Committee Minute (no date) concerning the assignment of any reward to persons who have improved the lunar tables 3–5
 2. Col. Colby's report on Kerigan's Tables 6–8
 3. Commander Owen's method of correcting the longitude and latitude by a double observation 9–11
 4. Minute of a committee for examining instruments and proposals 12–41
 5. Correspondence concerning the measurement of tonnage of ships (Tonnage Committee) 42–70
 6. Rules for measuring a ship for Tonnage 71–91
 7. Measures of Tonnage of Various Ships 92–139
 8. Minutes of Committee on Ships Tonnage 140–156
 9. Papers relating to the Glass Experiments of the Board of Longitude and the Royal Society 157–170
 10. Letter about a powder explosion in 1793—correspondence, and copy of a report of a committee of the Royal Society to inquire into the state of the reservoir of gas belonging to the Gas Light Company, etc. 171–212
 11. Reports by the Astronomer Royal 213–247
 12. Reports by various persons on papers, instruments, etc. 248–280
 13. Statement of letters required to complete "the Book of Longitude papers"—various letters about Board Meetings, etc. 281–301
- 539. VOLUME XI (1): *Miscellaneous Petitions and Memorials (1782–1828)***
- | | | |
|---------------------------------|-------------------|--------|
| 1. Mr Andrews and W. H. Andrews | 6. R. Blair | 33–36 |
| | 7. Blandin | 37–66 |
| 2. J. Bamber | 8. R. Broderick | 67–72 |
| 3. J. T. Baylee | 9. E. Chafe | 73–90 |
| 4. J. Beale | 10. W. Chapman | 91–94 |
| 5. J. Beckerley | 11. J. Churchmair | 95–106 |
| | | 27a–32 |

12. G. Clarke	107-110	25. J. E. Hartley	218-221
13. A. Coppard	111-114	26. T. Hedgcock	222-225
14. W. Davies	115-118	27. J. Hamilton	226-229
15. T. Dickenson	119-122	28. E. Hewlings	230-233
16. S. Dillow	123-126	29. J. Herbert	234-237
17. J. Couch	127-131	30. Capt. Heywood	238-241
18. M. Edwards	132-168	31. J. Huddart	242-245
19. S. Emery	169-171	32. A. M. Jaci	246-253
20. J. Garrett	172-175	33. A. Johnson	254-275
21. M. A. Gilpin	176-179	34. J. Kirkwood	276-279
22. G. B. Girolami	180-209	35. D. Kohlmann	280-284
23. Maj. Gen. Grant	210-213	36. P. Lecount	285-288
24. J. Gresley	214-217	37. Mrs M. Leslie	289-294

540. VOLUME XI (2): *Miscellaneous Petitions and Memorials (1765-1825)*

38. W. Lister	295-319	53. J. Tolson	453-455
39. G. Margetts	320-323	54. W. S. Trombull	456-459
40. Mrs M. Mackay	324-343	55. J. Tulloch	460-463
41. Mrs M. Mason (and sons)	344-357	56. J. Turner	464-469
42. J. Millar	358-361	57. M. Violaine	470-473
43. W. Mitchel	362-373	58. W. A. Warre	474-477
44. E. Naylor	374-381	59. J. Whidbey	478-483
45. W. North	382-397	60. B. Workman	484-494
46. J. C. Pellizer	398-408	61. H. Wronski	495-576
47. W. Pleadwell	409-416	62. T. Yeates	577-580
48. J. Pond (for Mr Walker)	417-420	63. Miscellaneous Single	
49. J. Preston	421-426	Letters: G. Sinclair,	
50. J. Stroat	427-430	A. Wetherspoon, W. A.	
51. W. Storer	431-446	Leckam re letter from	
52. M. Taylor	447-452	Board to W. Lester,	
		T. Allen	581-591

541. VOLUME XII (1): *Instruments of the Board; Persons entitled to Publications; Loans, etc. (1782-1829)*

1. Minute (1782) about Warehouse at Cambridge	3-6
2. Lists of Instruments etc. belonging to the Board, with correspondence, statements of instruments and books lent, etc. (1785-1823)	7-84
3. Imperfect catalogue of MSS belonging to the Board of Longitude	85-90
4. Lists of Societies, persons, etc. entitled to the publications of the Board	91-102
5. Requests for the use of Instruments and return of instruments borrowed (1783-1829)	103-150
6. Loan of Instruments to Mr Gooch (1791)	151-158
7. Loan of Instruments to Lieut. Dawes (1787-91)	159-168
8. Loan of Instruments to Dr Inman (1802)	169-180
9. Correspondence about a chronometer or chronometers to be brought from Paris (1820-5), and a case of rockets for geographical purposes	181-192
10. Receipts for Instruments lent (1784-1828)	193-230

- 542. VOLUME XII (2): *Instruments of the Board; Receipt and Delivery of Presents, etc. (1784-1827)***
11. Returns of Instruments—presents to Board of Longitude, etc. (1789-1823) 231-256
 12. Letters of thanks for publications of the Board and requests for publications (1784-1827) 257-354
 13. List of publications (1800)—stating number of copies reserved and number sold for waste—and classification made at Greenwich of Board of Longitude papers (this should have been in section 14) 355-381
 14. Detailed list of Board of Longitude papers, made after being brought to the Royal Observatory 382-476
- 543. VOLUME XIII (1): *Printers and Publishers and Accounts (1766-1829)***
1. W. Richardson, printer (1780, 1782) 3-6
 2. Books published by the Board, printed by Richardson (1766-81) 7-9
 3. C. Nourse (1782) 11-19
 4. Messrs Mount and Page (1782-3) 20-31
 5. P. Elmsley (1794-1801) 32-46
 6. C. Buckton (1794-9) 47-62
 7. Payne and Mackinlay (1801-15) 63-97
 8. Longman and Dickinson (1812-27) 98-105
 9. J. Murray (1811-28) 106-170
 10. Balance Sheet (1784) 171-174
 11. W. Nicol (1829) 175-177
 12. Bensley and Son (1798-1828) 178-231
 13. Bills relating to Dr Maskelyne's reply to Mudge's pamphlet (1792-8) 232-237
 14. Books published by the Board, etc. (1767-84) and a few other papers 238-272
 15. Applications for the appointment as Bookseller to the Board (1787-1811) 273-285
- 544. VOLUME XIII (2): *Printers and Publishers and Accounts (1782-1829)***
16. Papers relating to the Warehouse occupied by the Board (1782-1826) 286-304
 17. John Arnold (1785-97) 305-309
 18. J. Basire (1788) 310-313
 19. Letter from Dr. Maskelyne re payment to Mr Bayly (1782) 314-317
 20. I. Farlow (1795) 318-320
 21. C. Fenwick (1824) 321-324
 22. Messrs Smith Lundin & Co. (1821) 325-328
 23. Expenses of the Trigonometrical Survey connecting Greenwich with Paris (1822) 329-333
 24. Accounts relating to Lieut. Henry Forster's Pendulum Experiments (1824-8) 334-346
 25. Accounts relating to Capt. Sabine's Pendulum Experiments (1828) 347-353
 26. Accounts relating to the Pendulum Experiments in Cornwall for determining the mean density of the Earth (1828) 354-362
 27. Payment of £200 to Mr Barlow (1828) 363-366

28. Miscellaneous Accounts, principally for computations of the Nautical Almanac (1812-28)	367-383
29. Nathan Smith, account for a portable observatory (1791)	384-387
30. J. Weir, accounts for an artificial horizon (1794-8)	388-415
31. W. Wales, account for examining some tables, etc. (1796)	416-418
32. G. Gilpin, receipt of £10 salary for 1796 (1797)	419-421
33. Hannah Adams receipt for 15 gns for an azimuth compass (1797)	422-424
34. Executors of Mr J. Davidson (1802)	425-435
35. Messrs W. & S. Jones's account for instruments supplied to the Nautical Almanac Computers (1810)	436-438
36. G. Dollond, bills for mathematical instruments (1821-9)	439-448
37. J. F. Chinnery, customs house agent (1821-9)	449-459
38. Danish Chart Office (1822)	460-464
39. G. W. Nicol (1825-7)	465-467
40. J. Newman, instruments (1826, 1829)	468-472
41. Accounts of the Glass Committee (1827-9)	473-497
42. J. Dickinson (1828)	498-501
43. E. Tilbury, for rent of warehouse, etc. (1828-9)	502-508
44. Accounts with computers, etc., etc. Nautical Almanac and others (1828)	509-539
45. Reference to Correspondence with Computers re Nautical Almanac accounts (n.d.)	540-542
46. Miscellaneous papers on accounts (1795-1828)	543-711
47. Other miscellaneous accounts of computers, etc. under Mr Pond (1815-24)	712-740

545. VOLUME XIV: *Accounts* (1766-1828)

1. George Adams (1795)	3-7	17. John Crosley (1801-6)	191-198
2. Henry Andrews (1795-1805)	8-22	18. J. Davis (1787)	199-201
3. John Arnold (1771-1806)	23-39	19. William Dawes (1800)	202-204
4. Richard Ashworth (1772)	40-42	20. P. & J. Dollond (1776-1828)	205-222
5. James Basire (1776-1805)	43-53	21. William Dunkin (1823)	223-227
6. William Bayly (1772-85)	54-64	22. Thomas Earnshaw (1792-1806)	228-241
7. T. Bensley (1799-1823)	65-104	23. Eliza Edwards (1823)	242-244
8. M. Berge (1801)	105-108	24. John Edwards (1778)	245-247
9. Capt. J. Boulderson (1801)	109-111	25. Mary Edwards (1792-1806)	248-270
10. Thomas Brown (1823)	112-115	26. Mr Elmsley's Vouchers for work done at the Warehouses (1783-91)	271-281
11. Christopher Buckton (1786-99)	116-168	27. Mr Field (1766-71)	282-284
12. William Cary (1821-2)	169-173	28. Lieut. S. W. Flinders (1808)	285-287
13. William Chapman (1806)	174-177	29. William Garrard (1800-1809)	288-292
14. J. F. Chinnery (1823)	178-181	30. George Gilpin (1781-1809)	293-309
15. William Coombe (1787)	182-186	31. William Gimber (1774)	310-312
16. John Cox & Co. (1806)	187-190	32. William Hardy (1808)	313-315

33. William Malachy Hitchins (1788-1806)	316-327	41. H. Jenkins (1823)	377-379
34. William Hixon (1779-84)	328-332	42. George Jones (1777)	380-382
35. Messrs Horth & Winter (1778)	333-335	43. Thomas Jones (1821)	383-390
36. Charles Hutton (1779-82)	336-339	44. Larcum Kendall (1776-87)	391-397
37. John Ibbetson (1769-82)	340-348	45. J. Key & Sons (1799-1808)	398-442
38. James Inman (1802-4)	349-363	46. William Kinnebrook (1802)	443-445
39. Elizabeth Jackson (1777)	364-366	47. D. Lerpinière (1776)	446-448
40. Nicholas James (1802-5)	367-376	48. J. Lindley (1786-95)	449-454
		49. Messrs, Longman & Dickinson (1821-2)	455-458
		50. Admiral Löwenörn (1823)	459-462
		51. Israel Lyons (1774)	463-465

546. VOLUME XV: *Accounts* (1770-1823)

1. Thomas Malton (1779)	3-5	18. Payment to Admiralty Clerks for copying the Minutes re. John Harrison (1773)	244-246
2. George Margetts (1792-4)	6-1	19. Messrs Pearson & Loggan (1798-1801)	247-252
3. Richard Martyn (1823)	11-14	20. J. Ramsden (1778-87)	253-257
4. Nevil Maskelyne (1779-1809)	15-136	21. Receipts for Winding and Comparing Timekeepers from 1799-1802	258-270
5. Mary Mason (1791-2)	137-141	22. John Richards (1780)	271-273
6. William Mason (1801)	142-144	23. Joseph de Mendoza Rioz (1795)	274-276
7. Robert Melvill (1772-3)	145-148	24. William Richardson (1780-87)	277-297
8. Miscellaneous Receipts Rector's Rate, Poor Rate, House Rent, Land Tax, Church Rate (1783-91)	149-184	25. Captain H. Roberts (1790)	298-302
9. Messrs Molyneux & Cope (1823)	185-187	26. George Sanderson (1802)	303-305
10. John Monk (1772)	188-190	27. John Seton (1786)	306-308
11. Mount & Page's account of payments to John Ibbetson for books sold by them (1770-82)	191-194	28. Anton Shepherd (1770-3)	309-313
12. John Murray (1822)	195-199	29. Thomas Shrimpton (1772)	314-316
13. Edward Nairne, Nairne & Blunt (1772-1801)	200-210	30. F. Simmonds (1794-9)	317-327
14. J. Nichols (1786)	211-215	31. Messrs Smith, Baber & Downing (1801)	328-331
15. J. Nourse (1777) and Statement of Books sold from 1767-84	216-220	32. Messrs Swinton & Martyn (1777-8)	332-334
16. Captain John Parker (1792)	221-222	33. John Syeds (1800)	335-337
17. John Pascoe (1801-6)	223-243	34. Michael Taylor (1782-90)	338-352

Index of the Board of Longitude Papers

179

35. J. G. Taylor, Junior (1822)	353-355	43. Captain H. Wilson (1805)	434-435
36. John & Edward Troughton (1791- 1822)	356-371	44. William Winchester and Son (1800-8)	436-440
37. Philip Turner (1796- 1800)	372-386	45. F. Wingrave (1785-93)	441-447
38. William Wales (1788- 99)	387-392	46. Messrs Witchell and Bradley (1772)	448-449
39. R. B. Walker (1790)	393-397	47. Benjamin Workman (1808)	450-451
40. James Weir (1794, 1795)	398-409	48. Messrs Wright, Gill, and Dalton (1775- 98)	452-486
41. Messrs A. & J. Weston (1803)	410-421	49. Dr Young's Cheque Book (1819-23)	487-580
42. John Williams (1800-3)	422-433		

(This Index will be continued in our next issue.)