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STEWD

Papers from J. H. Steward Ltd, Opticians and Scientific
Instrument Makers,
Strand, London

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The material in the J H Steward Collection was acquired by the Science Museum in two parts. This fact is reflected in the lists - Sections 1-9 were transferred to the Library from the Musel.1m in 1985. Sections 10-12 were purchased by the Museum in 1986. [4 boxes]

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1. **MS Material in possession of J.H. Steward relating to various Scientific Instruments, Slide Rules etc.**
 - 1/1 The Dredge Omnitelemeter
 1. 2 letters from J.H. Blakerley, 39 Victoria Street, Albany Buildings, Westminster about Omnitelemeter. Dated 1893 April 10 and June 5
 2. Diagram of error in Omnitelemeter used with a staff at close range, 1p
 3. Table for use with Omnitelemeter, 1p [ms]
 - 1/2 W. Hall's Nautical Slide Rule
 1. Description of Hall's Nautical Slide Rule [ms] 4p
 2. Instructions for the Engravers of the slide rule scale [ms] 4p
 3. 3 letters from Rev. W. Hall about the slide rule with examples of use of the instrument 1900-1901
 4. Extracts of 4 letters from Naval Officers giving their experience of using the slide rule and from one letter of Lord Kelvin's giving his opinion of the rule
 5. 1 letter from Alfred Harper, manufacturer, about the scales on the slide rule
 6. Description and General Uses of Hall's Nautical Slide Rule [typescript] 28p
 7. Drawing of Hall's Nautical Slide Rule, 1p
 - 1/3 Chapman's Signalling Lamp with Incandescent Bulb and Parabolic Reflector
 1. 9 letters from E. H. V. Chapman, Royston Lodge, Richmond, Surrey to J. H. Steward 1912 about signalling lamp [ms]
 2. Instructions for Electric Signalling Lamp [typescript] 2p [31st Lancers pattern] [typescript] 2p
 3. Copy of report on the Electric Signalling Lamp [31st lancers pattern] [typescript] 2p
 4. Description of the Signalling Lamp by Steward's [ms] 2p

5. Template showing the curve of the parabolic reflector

6. 3 drawings of the lamp made by Aldis.

1/4

Clinometer and Road Tracer

1. 2 Letters from H. Hopkins, Cape Colony, S.A. to J.H. Steward re market for Road Tracers in South Africa

2. 1 letter and leaflet from H. Morin, Paris, on Niveau Boyelle-Morin, A Collimateur Dioptrique.

3. [Leaflet] Walker's Road Tracer 1903 [2p]

4. [Leaflet] Bellamy's patent combined Clinometer and Road Tracer, 1p and letter from W. F. Stanley & Co Ltd 1909

5. [leaflet] Le niveau a pendule de M. Hayer

6. 2 letters from T. Cooke & Sons Ltd to J. H. Steward 1909 with diagram

1/5

Molesworth Bomb Sight

1. Tables for use with Molesworth Bomb Sight [ms] 1p

2. [Duplicate illustration blocks for Molesworth Bomb Sight Booklet]

1/6

Deeley's Oil Machine

1. Indenture. March 1921 between Richard M. Deeley of Kew, Surrey and Messrs J. H. Steward granting license to Steward to manufacture Deeley's Oil Testing Machine [typescript] 4p

2. [Letter from] 43 The Grove, Isleworth, Middlesex R. M. Deeley [to] J. H. Steward enclosing drawing of wheel to steady the testing machine 1932 Dec 2

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Miscellaneous Items including

1. [Tradecard] J.H. Steward Optician to British and Foreign Governments

2. Col. McLeod' s Slide Rule [for artillery fire]
2 sketch drawings and description of scales
1 mock up of rule in paper

3. Ball and socket Level and scale. Comments on the use of the instrument and errors discovered [ms] 5p and 6p unattributed
4. Instrument Test Sheets. [for] Bronze Pocket Aneroid Barometers Sept. 1939. [giving instrument readings against Actual Standard]
5. The Calculations of Astronomical Telescopic Objectives Translated from the German of Dr. H. Harling by R. Osburn [ms] 11p
6. Description of U.S. de Lavaud's Altiplanigraph [ms] 11p
7. Notes on Range Finder Type F. 1916 and comments on the instrument. G. F. H. Smith of Natural History Museum

1/8 Notebooks Kept by J. H. Steward & Co.

1. List of Patents and subject list of works on scientific instruments [ms nd.]
2. Reference Book for Optical and Meteorological Formulae/John J. Steward 1887 [ms with insert]
3. Notes on the Dichroscope [ms - 16p from notebook - only part surviving]
4. [Notes on] the Telescope [ms - 35p nd.]
5. [Two notebooks recording the] Rainfall, at 406 The Strand, W. C., in 1897-1902 and 1903-1918, [Loose sheets recording] Rainfall at 406 Strand, 1919 to 1921 and 1925 to 1927.
6. [Product Notebook - giving calculations, formulae and general points to be observed in the manufacture of lenses and scientific instruments / J. H. Steward. nd. ms 171p 60p used]

2. Catalogues published by Jill. Steward Ltd., London

- 2/1 The Deeley Friction Machine (patent) for easily and accurately ascertaining the Oiliness or Efficiency and Lubricating value of Oils 16p illus [2 copies]
- 2/2 The Steward Hypsometric Aneroid and Swing Thermometer 8p ill
- 2/3 The Monoset Portable Altazimuth (Patent) 8p illus
- 2/4 The "Ferguson" Solar Chronometer and Astronomical Compass 16p ill [plus two charts for use with the chronometer] [2 copies]

- 2/5 The Steward Pocket Surveying Telemeter 24p illus
- 2/6 Supplementary Optical Aids to Shooting 12p illus
- 2/7 The H. S. Range-Finder 16p illus
- 2/8 The Dredge-Steward Omni-Telemeter 12p illus [3 copies]
- 2/9 The Figure Target, How to see it 15p
- 2/10 Hall's Nautical Slide Rules [4p] illus
- 2/11 The Hymans Pocket Range-Finder and Surveying Telemeter. As approved & supplied to H. M. War Office. 6p illus
- 2/12 The. Use of the Aneroid Barometer for Military Surveying 11p illus
- 2/13 The "Medhurst" Field Telephone & Telegraph Instrument 2p
- 2/14 The "Molesworth" Bomb Sight. 16p illus [3 copies]
- 3. [Instructions and descriptions of Instruments for use in catalogues produced by Steward's] [Typescript].**
- 3/1 Le-Telemetre Militaire [description and instruction] 2p typescript
- 3/2 Mirror Clinometer [instructions] 1p. Typescript
- 3/3 Instructions [for ascertaining the dew point using wet and dry bulb thermometers] 1p typescript
- 3/4 To adjust the Box Sextant [instructions] 2p. typescript
- 3/5 The Pedograph [hand written notes with diagram] 2p.
- 3/6 The Pedograph [hand written draft for typed notes] 2p.
- 3/7 The Ferguson Pedograph [Instructions] 3p. typescript with handwritten alterations
- 3/8 The Ferguson Pedograph [Instructions] 5p. typescript [2 copies]
- 3/9 Directions for range finding scale [1p ms incomplete]
- 3/10 The Barry Machine Gun Plotter [Instructions] 2p. typescript
- 3/11 The Clino Dial, Methods of Use 3p. typescript

- 3/12 Edwardes' Pocket Plotter for Field Artillery [ms and typed versions]
2p each.
- 3/13 The Rayner Refractometer [Description & Instructions] 4p.
Typescript
- 3/14 The Oke-Steward Plotter [Instructions] 2p. Typescript [2 copies]
- 3/15 The Oke-Steward Plotter [Instructions] 5p.
- 3/16 The Barker Crystallographic Protractor [Description] 2p. Typescript
- 3/17 The Williams Auto-computing scale [List of uses] Handwritten draft
for catalogue. 2p.
- 3/18 Drawing [the Williams Auto-computing Scale?] 1p
- 3/19 The Camera Lucida [Description and instructions] 2p. typescript
- 3/20 Instructions for Equatorial. 2p. typescript
- 3/21 Edwardes' Pocket Plotter & Ranger: Description and Directions
[Handwritten draft] 4p.
- 3/22 Edwardes Pocket Plotter and Ranger: Description and Directions
2p. Typescript with handwritten alterations [2 copies]
- 3/23 The Auto Simplex Tree and Height Measurer: Directions 2p.
Typescript [2 copies one with handwritten alterations]
- 3/24 The Prismatic Altazimuth [Description and Directions] 1p.
Typescript. 1 Original and 1 Copy
- 3/25 The Labbez Telemeter: Directions for use 1p. Typescript.
- 3/26 The Steward Hypsometric Aneroid: Metric Scales. 2p. Typescript
- 3/27 Horizontal Sun-dial [Directions] 2p. typescript
- 3/28 The Westphal Balance [Description & Directions] 1p. Typescript,
Illus. [2 copies]
- 3/29 The Westphal Balance [Description & Directions] 10p. Handwritten,
Illus.
- 3/30 The Jolly Balance: Instructions for use. 2p typescript

- 3/31 The Walker Balance: Instructions for use. Handwritten draft.
- 3/32 The Walker Balance [Instructions for use] 1p typescript Illus
- 3/33 The Barker Crystallographic Protractor [Description] 2p. Typescript
- 3/34 [Description & figure] The Laboratory Contact Goniometer and the Scholastic Contact Goniometer 1p. Typescript, Illus. [2 copies]
- 3/35 Diagram of Contact Goniometer 1p.
- 3/36 [Descriptions] Microscope a table, Spectroscope de poche, Indicateurs, Microscope a main du Moailler, Microscope a main du Joaillier, Loupes a main. 2p. typescript. [French].
4. **53 letters between Messrs J. H. Steward, Hillier, Parker, May and Rowden [Solicitors], Shirley, Woolmer and Co., [Solicitors] J. Trevor and Sons [Auctioneers, surveyors, Estate Agents] and Monier, Williams and Milroy re sale of 406 Strand, London, W. C. 1937.**
5. **13 printed papers re customs duty on items exported to Canada, South Africa, Australia and New Zealand 1907-1932.**
6. **Catalogues, Trade literature and leaflets produced by other companies.**
- 6/1 Instruction Pratique sur l'usage du Telometre a prismes a Longues portees/Fontainebleu: Coulier 1873 4p.
- 6/2 Notice sur le Telometre de Poche Instrument destine a la mesure rapide des distances/A Gautier/Paris: Librairie Militaire de J. Dumaine 1875 52p illus.
- 6/3 Instruction Pratique sur l'usage du Telemetre de Poche du Commandant Gautier/A Terquem/Paris: Librairie Militaire de J. Dumaine 1876 19p.
- 6/4 Notice Abregee pour l'emploi du Telemetre A Miroirs de M. Labbez/A. Balbreck/Paris: Imprimerie Laloux Fils et Guillot 1880 32p illus.
- 6/5 Notice sur la Jumelle-Telemetre Souchier recommandee a M Mrs les Officers J par la Ministre de la Guerre/Paris: Baille-Lemaire 1896 4p.
- 6/6 Instruction Theorique-Pratique pour l'emploi des Telemetres Pavese/Florence: Imprimerie Cooperative 1897 47p illus

- 6/7 Notice sur le Telometre de Poche du Colonel Goulier par Joubert/Paris: Tavernier Gravet [c.1890s] 14p illus & 1 folding plate
- 6/8 Le Telestim Parvesc. L'evaluation et la determination des distance a la portee de tout le monde/Brescia 1901 19p.
- 6/9 Jumelle Telemetre Souchier/Paris: Moreau-Teigne [nd] 4p illus
- 6/10 Notice sur le Prisme-Telemetre Souchier/Paris: Ad et Ed Deraisme [nd] 4p illus
- 6/11 Sextant Telemetre Pour la Mesure des Angles et des Distances [designed by M.P.O. Aubry]/Paris: L Huet [nd] 4p illus.
- 6/12 Notice sur la Boussole Jumelle inventee par M. D. Geraud Officier de cavalerie/Paris: Maison de l'ingenieur Chavallier [nd] 4p illus.
- 6/13 Telescopes a visiere de Voigtlander & Sohn, Aktien - Gesellschaft/Brunswick: Voigtlander & Sohn [nd] 4p illus.
- 6/14 L'Altiplanigraphe/D.S. de Lavaud [nd] 6p illus.
- 6/15 L'Altiplanigraphe. Nouvel Appareil Automatique d'obtenir rapidement et economiquement tous permettant leves topographiques/D.S. de Lavaud/Paris: Extract de la Science et la Vie No 59 7p illus.
- 6/16 L'Altiplanigraphe Instructions/D.S. de Lavaud/Paris: D.S. de Lavaud [nd] 19p illus.
- 6/17 Service Pattern Liquid Prismatic Compass Directions [nd] 4p illus.
- 6/18 Directions for Setting Horizontal Sun-Dials by the Sun or Magnetic Compass [unattributed - nd] 2p.
- 6/19 Sinclair's No 2 Owen Topometer/London: James A. Sinclair and Co. Ltd. [1939] 25p illus.
- 6/20 The Michell Viscometer/London: E.L. Mann [nd] 16p Illus.
- 6/21 Manual of the Use and Functions of the Pedograph/Thos. Ferguson/ [London] nd. 10p.
- 6/22 General Description of Sexton's Omnimeter/Thaddeus Norris/ Philadelphia 1897 6p illus [plus folding leaflet giving prices in dollars]

- 6/23 Fecker Optical Products/Ohio: J. W. Fecker [nd] 8p illus.
- 6/24 Uses to which Mason's Hygrometer is applicable [unattributed nd] 4p.
- 6/25 Seeing Stars with our famous Astronomical Telescopes/London: Broadhurst Clarkson & Co. [nd] 12p illus.
- 6/26 The Captain Blacker "Scout" Compass/London: Henry Hughes and Son Ltd. [nd] 4p.
- 6/27 Revised Price List of Iris Diaphragms/Bexley Heath: H. Ausbuttel and Co. Opticians [nd] 2p.
- 6/28 Instructions for using The Universal Arc Lamp (Davenport's Patent) [unattributed nd] 2p illus.
- 6/29 Oertling No 62 precision balance/London: L. Oertling Ltd. 1939 5p i11us.
- 6/30 Small Stationary Tachometers/London: Maul and Co. Ltd. 1931 6p illus.
- 6/31 A Treatise on Monel Metal/Glasgow: G. & J. Weir Ltd 1919 32p.
- 6/32 Monel Metal. Non Corrodible/Glasgow: G. & J. Weir Ltd 1919. 4p.
- 6/33 Glass for Optical Purposes/Birmingham: Chance Brothers & Co. Ltd. 1920 13p.
- 6/34 Kershaw Prism Binoculars/Leeds: A. Kershaw & Son. 1926 20p i11us
- 6/35 Kershaw [catalogue of binoculars]/Leeds: A. Kershaw and Son 1930 5p i11us
- 6/36 Kershaw The Worlds Standard Quality [catalogue of binoculars]/Leeds: A. Kershaw and Son 1931 7p illus.
- 6/37 Kershaw The Worlds Standard Quality [catalogue of binoculars]/Leeds: A. Kershaw & Son 1932 7p illus.
- The Senior Service Marine Glasses/Leeds: A. Kershaw and Son [nd] 4p i11us.
- 6/39 Extra Wide Angle Binoculars/Leeds: A. Kershaw and Son 1930 29p illus.

- 6/40 The Solo Binocular/London: Soho Ltd. [nd] 2p.
- 6/41 [Data and price lists of Kershaw Prism Field Glasses] 10p.
- 6/42 A Slide Rule for Indirect Fire/Major H.W. Hill/London: [nd] with folding plate [stamped J. H. Steward Ltd.] 22p
- 6/43 [Catalogue of Scientific Instruments] /Paris: H. Morin /Scientific Instrument Maker [1908?] 48p illus.
- 6/44 Station Keeper and Distance Diagram designed by Commander L. K. Bell R. N. 2p illus [plus two letters dated 1898].
- 6/45 The "Aide-Tireur" Range Finder Instructions for use [unattributed nd]
- 6/46 Presliste uber Instrumente Fur Astronomie und Physik aus der Optisch-Astronomischen Werkstatte von C.A. Steinheil Sohne/Munich 1894 Slp illus.
- 6/47 Specification for Manufacturing Purposes No RE1247 for Mk VI Prismatic Compasses - Date of approval 1908 Feb. 6p plates 2
- 6/48 Specification for Manufacturing purposes No R.F.339G. Prismatic Binocular No 2 Mk I. Approved 1909 Mar. 5p.
- 6/49 Specification for Manufacturing purposes No R.F.377. Prismatic Binoculars No 2 Mk II. Approved 1911 Nov. 2p.
- 6/50 [Chart] Deflection Factor and Evaluation Factor for Ranging on Line O. T.
- 6/51 Hind Chart for 4.7" QF Gun invented and designed by Lieut S. T. Layton 1916
- 6/52 Wind, Temperature and Barometer Chart for Explosives.
- 6/53 How to distinguish Rubies from artificial stones [using the Jewellers microscope supplied by J,H. Steward] [Chart issued by the Burma Ruby Mines Ltd., London]

7. Offprints from periodicals relating to scientific instruments.

- 7/1 On a New Barometer called "the Amphisboena". BLAKESLEY, T. H. Reprinted from the Philosophical Magazine, November 1888 p.458-460
- 7/2 Lecture on Reconnaissance. VERNER, major Willoughby The

Volunteer Record and Shooting News, March 26 1892 v.14 No. 408
p.145-146

- 7/3 Cantor Lectures on Precious Stones. MIERS, Henry A. Read before the Society for the Encouragement of Arts, Manufactures, and Commerce. April 13 and 20 1896. 16p.
- 7/4 Apparat und Methode zur photographischen Messung von Flächenhelligkeiten. HARTMANN, J. Zeitschrift fur Instrumentenkunde v.19 No.4 April 1899 p.97-110. [German]
- 7/5 Note on an Improved Dipping-Needle. LOUIS, Henry/Iron and Steel Institute. May 1899. 6p.
- 7/6 A New Collimating-Telescope Gun-Sight For Large and Small Ordnance. GRUBB, Sir Howard The Scientific Transactions of the Royal Dublin Society:-Series II, v.7, part 10, p.321-330 (Plate 26). August 1901
- 7/7 Uber die Neurfsten Fortfchritte der Jagd-Prismen-Glazer, Inklufiur der Zielfernrohre. HOLTERBACH, M. Deutsche Jager Zeitung Band 40, No.12, 9th November 1902, [off-print 3p. German.]
- 7/8 Hensoldts neueste Prismen-Fernrohre. Supplement to Die Saison Jahrg. 6, No.104, 1902, 2p. Illus. [German]
- 7/9 Das Zielfernrohr. Supplement to Das Schiekwefen Nr.12 Bd.6 2p Illus [German]
- 7/10 The Artificial Star. [KENDAL], F. The Optician and Photographic Trades Review. February 13th 1903. p.567-568
- 7/11 De Cyclograaf Ferguson. FERGUSON, T. Overgedrukt De Ingenieur 7th November 1903 No.45. 16p. Illus [German]
- 7/12 Le Cyclographe Ferguson. Extract from La Revue du genie militaire. February 1904, 8p. Illus [French]
- 7/13 Le Podographe Ferguson. Extract from La Revue du genie militaire. May 1903, 7p. Illus. [French.]
- 7/14 Optical Aids for Military Purposes. SAUNDERS, Colonel M. W. Reprinted from Proceedings' Royal Artillery Institution v.30 No.s 4, 5 and 6. 1903. 5p.
- 7/15 Field Glasses for Service. OSBORN, major G. 2p. [Incomplete]
- 7/16 Note Concerning an Old Instrument for Finding Distances,

- Exhibiting the Oldest Known Form of the Transit-Theodolite Principle. HOSKOLD, H. D. Transactions of the American Institute of Mining Engineers. New York Meeting, October 1903. 17p. Illus.
- 7/17 An Improved form of Three-Circle Goniometer. HERBERT SMITH, G. F. Reprinted from the Mineralogical Magazine, October, 1904 v.14, no.63, 15p. (Plate 1). Table from v.13 No.62
- 7/18 An Improved form of Refractometer. HERBERT SMITH, G. F. Reprinted from the Mineralogical Magazine, May 1905, v.14, No.64, p.83-86, illus.
- 7/19 A new model of Refractometer. HERBERT SHITH, G. F., Reprinted from the Mineralogical Magazine, September 1907, v.14, No.67, p.354-359, illus.
- 7/20 A new stereographic protractor. HERBERT SHITH, G. F., Reprinted from the Mineralogical Magazine, December 1913, v.17, No.78, p.46-50, illus.
- 7/21 Eclipse de 1905 en Carrion de Los Condes. Seccion Astronomica del Observatorio de Cartaja Granada (Fasiculo II) p.17-32, Illus.
- 7/22 Report on the Total Solar Eclipse of 1905, August 30. From Proceedings of the Royal Society, vol. 77 99p.
- 7/23 Telemetre prismatique instantane, systeme du Commandant Gerard. Extract from La Revue d'Infanterie, 15 February and 15 March 1907, 47p. [French]
- 7/24 A Means of Measuring the Apparent Diameter of the Pupil of the Eye, in very feeble Light. BLAKESLEY, T. H. Reprinted from the Philosophical Magazine December 1910 p. 966-969. Illus.
- 7/25 Advertisements. Nature March 27 1913 p.37-38 1illus.
- 7/26 Constructional Data of Small Telescope Objectives calculated at the National Physical Laboratory. SMITH, T. and CHESHIRE, R. W. 1915 London 82p.
- 7/27 Papers on Optical Calculations and Measurements Relating to Lenses and Lens Systems. SMITH, T., National Physical Laboratory Collected Researches v.8, 1916, p.165-217
- 7/28 Flank Observation Computer. NOTCUTT, Captain L. A., Reprinted from The Journal of the Royal Artillery v.44, No. 10] January 1918, p.1-4, Illus.

- 7/29 AS STEWD 7/28
- 7/30 Kinetic Boundary Friction, WELLS, Justin H. Reprinted from The Engineer, April 26 1929, 4p., Illus.
- 7/31 Journeys in the Libyan Desert 1929 and 1930. BAGNOLD, R. A. [Title of journal not given.] p.524-535 Illus.
- 7/32 The Herschel Oiliness Machine (American Instrument Co.). Instruments, September 1930, p.597-598, Illus.
- 7/33 The Instrument World, February 1932, vol. IV No.46, p.185-204, Illus.
- 7/34 Apparatus for the Identification of Gems by X-rays. SWITZER, George and HOLHES, Ralph J. Gems and Gemology, Winter 1946, p.367-370. Illus.
- 7/35 Gemstones Nomenclature. The Journal of Gemmology, April 1948, Vol. 1, No.6, 8p.
- 7/36 Some Tests for Precious Stones, HOPKINS E. [E. Gemmological News, 6p.
- 7/37 Directions for Use of the Signalling Disc, H. H. S. O. London, 2p, 10 fig.

8. Patent Specifications

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|-----|------|----------|--|
| 8/1 | 1876 | No. 4258 | Instruments for Obtaining Right Angles and Ascertaining Distances/H.S .S. Watkin |
| 8/2 | 1885 | No. 8043 | An Instrument for Measuring Distances/H. R. A. Hallock |
| 8/3 | 1888 | No. 1794 | Improvements in Instruments for Measuring Angles and Ascertaining Distances/H. S. S. Watkin. |
| 8/4 | 1893 | No. 4271 | An Improved Instrument for Determining Distances/L. K. Bell. |
| 8/5 | 1895 | No. 4339 | Improvements in and relating to Telescopes, Microscopes and Photographic Objectives/ A.C. Biese. |
| 8/6 | 1895 | No. 8837 | Improvements in Field or Marine Glasses/ H. H. Lake |

8/7	1895	No. 23,834	An Instrument for Measuring Small Angles which may be applied to Finding Distances/J. F. Stuart.
8/8	1896	No. 2472	Improvements in Lenses for Terrestrial Telescopes/F. R. von Voigtlander.
8/9	1896	No. 7972	A New or Improved Instrument for Measuring Small Visual Angles and for Determination of Distances thereby/L. K. Bell.
8/10	1897	No. 17,843	An Improved Terrestrial Ocular or Eye Piece/The Societe
8/11	1913	No. 6361	Improvements in Range Finders/H. B. Molesworth

9 Drawings and Photographs

9/1	[Two Photographs of meteorological instrument.]		
9/2	[Photograph of Thermohygrograph?]		
9/3	[Photograph and] negative of scale		
9/4	[Drawing of Range plotter for various speeds of travel]		
9/5	High Temperature Oil Tests [Drawing of] Self Aligning Holder for Test-Brush/Scale 6"-1' 7/12/20 Eng. Dept. National Physical Laboratory [Blueprint].		
9/6	High Temperature Oil Tests [Drawing of] Test Journal with Heating Arrangements/Scale [?] 29/1/21 [Blueprint].		
9/7	[Drawing of J Continuous Feed Oil Pump for "Axiom" Oil Tests/Scale 1 1/2" to 1' Eng. Dept. of National Physical Laboratory [Blueprint].		
9/8	[Drawing of] Arrangement of Radial Loading for Tests on Ball and Roller Bearings/Scale 1" to 1' 16/7/24./Eng. Dept. National Physical Laboratory [Blueprint]		
9/9	[Drawing of] General Arrangement of Apparatus for Friction Tests on Lubricated Bushes/Scale [?] 14/6/21. Eng. Dept. National Physical Laboratory [Blueprint]		

- 9/10 [Drawing of] Loading System for Bearing Friction Machine/Scale ½ and 1/4 full size. [nd] Eng. Dept. National Physical Laboratory. [Blueprint]
- 9/11 [Drawing of] Nomograph for Rifle Elevations Devised by Capt. J. H. Hardcastle by the help of Capt. R. K. Hezlet's pamphlet on the method of M d'Ocagne. [No scale]. [ms note] J. J. Steward with kind regards J. H. Hardcastle 20/2/14.

10 Ms. Notebooks

- 10/1 Synopsis of business arrangements.
- 10/2 Instrument Test Details [containing] Instructions on testing drawing instruments, telescopes, microscopes, field glasses, thermometers, barometers, 37p [used]
- 10/3 [Notebook containing suggestions for improvements in use of instruments, English army list [for possible customers], suggestions for advertising, 20p [used].
- 10/4 Memos of Cost etc and Prices of Spectacles etc. [containing] costs of goods from various suppliers, 1907-1919, p1 - 67 [and] cost of repairs to spectacles, lens costs etc, 1921-1923, p [1-23] numbered from middle of book.
- 10/5 Old Book and Costs of Goods. [Containing] details of scales for aneroid, clinometer, telemeter, machine gun graticules etc. 1917-1924, p[1-20] [and] costs of goods from various suppliers 1907 and 1921-1922, p 1-92 numbered from middle of book.

11 Typed and Printed Instructions for Using Instruments

- 11/1 Instructions for use of Romer [Log Plotter] 1p, 2 blueprints.
- 11/2 The Simplex Ski Clinometer Mark I and Mark II 2p.
- 11/3 Instructions for fixing mirror to Clino-Dial 2p [with] ms notes on Clino-Dial 4p.
- 11/4 Test Notes and Instructions for Clino-Dial 1929 and 1936 6p.
- 11/5 No 4 Planimeter 1p.
- 11/6 Instructions for using Amsler's Planimeter No 2, 1p
- 11/7 How to use and adjust Watts Highway and Quickest Levels - E R Watts & Son Ltd, 3p

- 11/8 Instructions for "Companion" Monocular (Pocket Prism Telescope) 1p.
- 11/9 Prism Binocular Field Glasses, 1p.
- 11/10 Priestly MG Field Plotter. Instructions for Use 1942, 1p.
- 11/11 Machine Gunner's Slide Rule Mark I, 3p.
- 11/12 Instructions for Gunnery Gauge Marks on Standard 5" and 10" Slide Rules. 3p.
- 11/13 College Series of Equatorial Telescopes 1p [with 1p from catalogue].
- 11/14 Instructions for Rejoining Mercury Column of Maximum and Minimum Thermometers, 7p.
- 11/15 General Instructions for Use Nr 1 of Barometer and Altimeters.
- 11/16 Directions for using the S & N Stormguide 11"
- 11/17 Pocket Barograph 2p (French and English editions].
- 11/18 Barographs (or Recording Barometers) Instructions for Use.
- 11/19 Edney Direct Reading Hygrometers
- 11/20 Instructions for use and setting Edney Hair and Paper Hygrometers 1p.
- 11/21 Uses to which Mason's Hygrometer is applicable 4p.
- 11/22 Directions for the use of Masons Hygrometer 4p.
- 11/23 How to Test the Humatograph Hygrometer.
- 11/24 Humatograph 1p.
- 11/25 The storm glass or chemical Weather Glass.
- 11/26 Rules for Forecasting Weather' with Lambrechts Polymeter 1p.
- 11/27 Explanation of Reeves Astronomical Compass and Time Indicator 4p.

- 11/28 Exchange Slide Rule 1p.
- 11/29 Wool Trade Calculator [French, German and English editions].
- 11/30 Office Model, Wool Trade Calculator 1p.
- 11/31 Directions for using the Hand Tally Counter 1p.
- 11/32 Blackwell Average Speed Calculator Mark I - Instructions. 1p.
- 11/33 "Addiator" Calculating Machine for pounds, shillings and pence, 1p.
- 11/34 Regle a Calcul Pratique (pour 10. poche).
- 11/35 Profit Calculation [using the Multor] 1p.
- 11/36 Instruction leaflet for the Multor 1p.
- 11/37 Instructions for the Tog Slide Rule 4p.
- 11/38 The Woodman's Dendrometer 1p.
- 11/39 The Pedometer, 1p.
- 11/40 The Passometer 1p.
- 11/41 Directions for setting Horizontal Sun-Dials by the Sun or Magnetic Compass, 1p.
- 11/42 Method of Adjusting Car Compass 1p.
- 11/43 Directions for Installing the Hull Streamline Automobile Compass 1p
- 11/44 Instructions for using para line to set the Instruments for drawing parallel lines in inches or fractions of an inch. 1p.
- 11/45 Instructions for "Empire" pencil sharpeners 1p.
- 11/46 The Rational Portional Compass.
- 11/47 [Letter] 1934 Nov 26 National Physical Laboratory, Teddington, Middlesex [to] Messrs J H Steward Ltd, 406, Strand, London/ The Director. Setting out fees and tolerances for aneroid barometers and enclosing schedule of fees for testing mercurial and aneroid barometers and manometers 10p.

- 11/48 [Letter] 1935 Aug 9. National Physical Laboratory, Teddington, Middlesex [to] Messrs J H Steward Ltd, 406, Strand, London/ The Director. Enclosing the following rules from NPL Metrology Division:
1. Conditions of Test of Watches, 1932 3p
 2. Conditions of Test of Marine chronometers 1930 1p
 3. Time of Day Chronograph Watches submitted to Class A, Subsidiary Class A or Class B Tests 1933 2p.
 - 4, Conditions of test of stop Watches or Chronograph Watches giving direct readings to 1/100th second. 1935. 1p.
 5. Basis of Computerisation of the marks awarded on the results of the Kew Class A test on Watches [nd] 2p.
 6. Watch and Chronometer Testing. Schedule of Fees 1932, 1p.
 7. Verification of Mercurial and Aneroid Barometers and Manometers. Schedule of Fees. 1928 2p.

12 Catalogues in the J H Steward Collection

- 1 The 'Steward' Telemeter [ca 1899?] 16p. ill. 2 copies
- 2 -
- 3 The Steward Surveying Telemeter
- 4-5 The Steward Liquid and Self-luminous Military Compasses 20p. ill. [nd] [One with ms annotations] 2 copies, both incomplete
- 6 The Dredge Steward Omni Telemeter 12p. ill. [ca 1894?] [With ms annotations].
- 7 Instruments for use in Mineralogy etc. 4p. [nd ca 1920s?]
- 8 Instruments for use in Mineralogy etc. [8 leaves clipped together]. ill. [nd].
- 9-12 Instruments for the examination of Crystals, Minerals and Precious Stones and for the detection of artificial gem stones. 4p. ill. 4 copies 1939-1960 [?]
- 13-14 The Herbert Smith Refractometer for Mineralogists, Crystallographers, Petrologists, Prospectors, etc. 4p. ill. [nd] [2

copies, one with ms annotations].

- 15 Instruments for the detection of Artificial and Imitation Gem Stones. 8p. ill. Incomplete [nd].
- 16 Meteorological Instruments Barometers - Thermometers, Rain gauges. 1931. 36p. ill. [With ms annotations and 7 loose sheets].
- 17-25 Meteorological Instruments, Barometers, Thermometers, Rain gauges [9 copies - undated but subsequent to 1931 - all incomplete - some with ms annotations].
- 26 Meteorological Instruments, Mercurial, Aneroid and Recording Barometers, Thermometers, Rain Gauges etc. 1904. 57p. ill.
- 27 Meteorological Instruments, Mercurial, Aneroid and Recording Barometers, Thermometers, Rain Gauges etc. 1920. 23p. ill. Incomplete. [With ms annotations].
- 28 Meteorological Instruments, Mercurial, Aneroid and Recording Barometers, Thermometers, Rain Gauges etc. 1920. Corrected copy May 1930. 23p. [With ms annotations].
- 29 The 'Lensatic' Liqueid Night Marching + Field Sketching Compass. 6p. ill. [nd].
- 30 The Deeley Friction Machine for Testing Oils. [nd. ca 1939]. 16p. ill.]
- 31 The Deeley Friction Machine. [nd]. 14p. [incomplete] ill. [Prices altered].
- 32 The Deeley Friction Machine [nd] 16p. ill. [With ms annotations].
- 33 The 'HS' Range Finder. [nd]. 16p. ill.
- 34 The 'Steward' Surveying Telemeter. [nd]. 24p. ill. [With ms annotations].
- 35 Ferguson's Pedograph or Automatic Route Tracer. [nd. 6p.]. ill.
- 36 Manual of the Use and Functions of the Pedograph. By the Inventor. [nd] 10p.
- 37 Mathematical Drawing Instruments and Appliances. 1927. 31p. ill. [With ms annotations].
- 38-40 Mathematical Drawing Instruments and Appliances. 1933. 39p. ill. [3 copies all variously annotated].

- 41 Description of Williams Proportional Scale for the use of Surveyors, Draughtsmen and others. M T Ormsby [nd] 9p. ill.
- 42 Surveying, Mathematical + Nautical Instruments. 1895. 72p. ill.
- 43 Ten loose leaves from Telescope catalogue.
- 44 The Guardian Mechanical Control [ca 1930?]. 8p. ill.
- 45 Yachting Instruments [nd. ca 1930s?]. Fold-out leaflet.
- 46 Yachting Instruments. 1933. 15p. ill.
- 47 Yachting Instruments 1933. 15p. ill. [With ms annotations to 1945].
- 48 Military Instruments for Reconnoitring, Sketching, Night Marching, Signalling, 1910. 94p. ill. [With 2 supplements].
- 49 Military Instruments for Reconnoitring, Sketching, Night Marching, Signalling. 1916. 84p. ill.
- 50 Military Instruments etc. [nd] 96p. ill [Incomplete].
- 51 Special Military Instruments for Manoeuvres. [nd] . 8p. ill.
- 52 Special Military Instruments for Manoeuvres. 1925. 8p. ill.
- 53 -----as above----- 1926. 8p. ill.
- 54 -----as above----- 1928. 8p. ill.
- 55 Supplemental List of Special Military Instruments. 8p. ill. [annotated].
- 56 Military Instruments for Reconnoitring, Sketching, Night Marching, etc. 1929. 70p. ill.
- 57 Military Instruments. 1934. 74p. ill.
- 58 ----- as above ----- . 1934. 74p. ill. [With ms annotations].
- 59 Abridged list of Military Instruments for Manoeuvres. 1934. 10p. ill.
- 60-61 Military Instruments Supplementary List. 4p. ill. [With ms annotations]. 2 copies.

- 62 McLeod Field Artillery Slide Rule. [nd] . 8p.
- 63 Davidson 'Vade Mecum' Protractor. [nd] . 8p.
- 64 Davidson 'Vade Mecum' Protractor. 1930. 7p.
- 65 ----- as above ----- 2p.
- 66 Ferguson Solar Chronometer and Astronomical Compass. 16p. ill.
[With 1p. ms instructions 'To Test Charts' and 3 photographs of the
Solar Chronometer]
- 67 The Tate Improved Arithmometer 1903 patent. [nd]. 12p. ill.
- 68-69 Hall's Nautical Slide-Rule [nd] 27p. ill. [2 copies, one J H Steward,
one J H Steward Ltd].
- 70 Hints on the Care of your Watch. [nd but stamped 1937]. [8]p. ill.
- 71 IBE Motor Car Compass. [nd] 4p. ill.
- 72 Catalogue of Optical Lanterns. 1908, 56p. ill.
- 73 The ASC Orilux Lamp. 1p.
- 74 The Orilux Lamp. 1940. 4p.
- 75 ----- as above ----- [With ms additions].
- 76-77 The Steward Hypsometric Aneroid and Swing Thermometer. nd. 8p.
ill. 2 copies annotated.
- 78 Protractors [latest prices 1965]. 1p.
- 79 Map Reading Proctor. [Drawing in ink].
- 80-81 Folding Spectacles [nd]. 3p. ill.' [2 copies, one annotated'].
- 82-83 Spectacles + Eyeglass [nd] 12p. ill. [2 copies, one cannibalized].
- 84 Recumbent Spectacles. 1p. ill.
- 85-86 Pupilometer [instructions with pupilometer] 1p. [2 copies].
- 87 'Rectiform' Sports Spectacles. 4p. ill.
- 88 'Rectiform' Uni-focal lenses. 4p. ill.

- 89 [General Catalogue] 1904. 116p. ill. [With ms annotations].
- 90 Catalogue of Surveying, Mathematical and Nautical Instruments. 1911. 136p. ill. [With ms annotations].
- 91 Catalogue of Prism Binoculars, Field Glasses and Telescopes. 1914. 118p. ill. [With ms annotations]
- 92 Catalogue of Field Glasses, Telescopes and Microscopes. 1920. 36p. ill. [With ms annotations].
- 93 Catalogue of Field Glasses and Telescopes. 1923. 56p. ill.
- 94 Portable Telescopes. [nd. Containing 6 loose leaves describing various telescopes]
- 95 Notes on the use of Portable Telescopes. 1937 fold-out leaflet.
- 96 Prism binocular field glasses; spotting telescopes for use on rifle ranges; rests and tripod stands for spotting telescopes. [nd]. 23p. [illus].
- 97 Catalogue of Surveying, Mathematical and Nautical Instruments. 1921. 58p. [illus, ms annotations, incomplete].
- 98 Surveying and Mathematical Instruments. 1928. 121p. illus, incomplete].
- 99 Have you a spare pair? [nd. Fold-out leaflet describing various spectacles].
- 100-101 Catalogue of riflemen's requisites. 1904. 28p. [illus]. 2 copies, one has ms annotations.
- 102 The Bisley optical sight for match rifles. [nd]. 1p. illus.
- 103 Cunicide. [nd]. 1p.
- 104 J H Steward's improved Universal Orthoptic Spectacles. [nd]. 1p.
- 105 Rectiform shooting spectacles. [nd]. 1p.
- 106 Lens attachment for aperture sights of miniature rifles. [nd]. 2p. illus.
- 107 Lens attachment for eyepiece. [nd]. 1p. illus.

- 108 The 'Rectiform Lens' [nd] Fold-out leaflet.
- 109 Artillery instruments. [nd]. 1p. illus.
- 110 ----- as above -----
- 111 The 'Medhurst' Field Telephone & Telegraph Instrument. [nd] 2p.
 [Ms Annotations]
- 112 Catalogue - Mathematical drawing instruments and appliances.
 [nd]. 40p. illus. Incomplete.
- 113 The Romer 'Log Matter'. [nd] . 2p.
- 114-115 Supplementary list of barometers and thermometers. nd. 16p. illus.
 2 copies, one incomplete with ms annotations.
- 116-117 J H Steward's catalogue of microscopes. nd. 36p. illus. [2nd copy
 117 very incomplete with ms annotations].
- 118-120 Microscopes and accessories. 1927. 8p. illus. 3 copies, one
 incomplete, two with ms annotations.
- 121 Miscellaneous loose papers, mainly military, ca. 1934-1964.
- 122 Sectional catalogue. [nd]. 4p.
- 123 PIC calculating slide rules. [1935]. 12p.

**Books in the Steward Collection - [Transferred to Main Stock] –
1986-607**

Handbook of Astronomy Vol II Dionysius Lardner. London: Walton
and Maberly 1853-1856, p 433 - 872: ill,

Automatic Surveying Instruments and their Practical Uses on Land
and Water/ Thomas Ferguson - London: John Bale, Sons and
Daniellson Ltd, 1904, xii, 87p: ill,

A Treatise on Surveying/ Reginald Middleton and Osbert Chadwid: -
London: E & F Spon, Ltd. 1899 and 1902. 2 volumes, xii, 283p and
xvi, 327p ill.

A Treatise on Surveying/ Reginald E Middleton, Osbert Chadwick
and J du T Bogle - London: E & F W Spon Ltd. 1904 2nd edition Vol I
only xiii, 285p ill.

Surveying with the Tacheometer. A practical manual for the use of Civil and military engineers and surveyors/ Neil Kennedy - London: Crosby Lockwood and Son 1900 vi, 104p, 3 plates, 64p adverts.

The Tacheometer: its Theory and Practice/ Neil Kennedy - Reprinted from Proceedings of The Institution of Civil Engineers, vol xcix, 1889-90. 77p, 1 folding plate.

Tacheometry or Rapid Surveying/ B H Brough - Reprinted from the proceedings of The Institution of Civil Engineers, vol xci, 1881-80. 30p.

Monthly Notices of the Royal Astronomical Society Vols LV no 8 and LVII no.3 1896 and 1897.

Some Remarks on Rust, Wear and Erosion in Gun-Barrels, with special reference to small arms/ Capt J. H. Hardcastle - Reprinted from Proceedings of Royal Artillery Institution vol xxxi No 2 1904. 10p illus.

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