

J. H. STEWARD: A FAMILY DYNASTY

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At the end of the 19th century an unsung and now largely forgotten instrument maker and retailer had its heyday.

Instrument Makers – unsung heroes

Too easily the latter-day success and impressive product ranges of the large commercial manufacturers overshadow the important role instrument makers played in the 400-year history of the slide rule. For example, although invented centuries earlier, the use of an automated dividing machine for the mass production of slide rules did not start until the end of the 19th century. So until the use of such machines became common place, instrument makers were as key to the development and exploitation of the slide rule as new designs and any form of innovation. After all, although the Reverend William Oughtred (1574-1660) invented the slide rule in 1622, it was master instrument maker, Elias Allen (1588-1653) who actually made the first slide rule for him.

Sadly, and perhaps unfairly, in comparison to the volumes written about commercial slide rule greats such as *Faber-Castell*, *Keuffel & Esser*, *Nestler*, etc. too little is known about the important part the myriad of independent instrument makers played. Often their accreditation is sadly limited to just a name and a possible address.

Some items in my own collection prompted me to try to put history right for at least one unsung but important instrument maker and retailer: **J.H. Steward**.

How it all began

James Henry Steward (1817–1896) MIM OIM PHIM SIM¹ established *J.H. Steward* in London in 1852. As “Head Optician” he would have been a qualified oculist but little is known about the founder’s early life and scholastic achievements. However, given the variety of disciplines for which he was an accredited instrument maker, he was clearly a gifted scholar and impressively gained professional recognition in a full range of fields for an instrument maker of his day. J.H Steward became incorporated as *J.H. Steward Limited* on **1st February, 1913**.



Fig. 1: James Henry Steward
age +/- 60

The business grew from a modest beginning: a stall selling pocket watches and assorted items at the annual competition days of *The National Rifle Association of the United Kingdom* (NRA). The NRA is the governing body for full bore rifle and pistol shooting sports in the UK. The Association was established in 1859 to improve the shooting skills of the newly formed corps of volunteers to meet the perceived threat of an invasion by the French. A J.H. Steward advert first appeared in the NRA programme of 1865. The NRA meetings were held on Wimbledon Common, Surrey until 1889. Then because of pressure by the local community, the NRA, its buildings and its flourishing meetings moved further south to Brookwood, Surrey.



Fig. 2: NRA Wimbledon Common Clock Tower (they took it with them when they moved to Brookwood!)

By now the Steward operation had grown from a modest stall into a large marquee selling various optical and scientific instruments at the NRA meetings.

¹ From Webster’s: MIM = Mathematical instrument maker
OIM = Optical instrument maker

SIM = Surveying instrument maker
PHIM = Philosophical instrument maker



Fig. 3: Steward marquee at a 3-week Bisley Shooting Meeting in Brookwood - post 1889

The proud boast “*Official Optician to the National Rifle Association*” was a self-proclaimed marketing ploy first coined by J.H. Steward in 1866. The NRA and the Steward family were to have a long and mutually beneficial association for more than a hundred years but there is no record that the NRA had an accreditation scheme for companies. In fact in 1885 a former long-standing Steward employee, William Gregory, also started advertising as an “*Official Optician to the National Rifle Association*” - a source of friction between them until Gregory ended its proclaimed association with the NRA in 1910. J.H. Steward also adopted the accolade “*Optician to British and Foreign Governments.*” Like the NRA accreditation, this was more company promotion-based than an official award. Today, the NRA headquarters are still based in Brookwood.

Family Dynasty

Since James Henry’s family home and the address of his first shop are the same, 406, The Strand, London W.C. 2, it is difficult to know exactly which came first – the family home (above the shop) or a premises for the business. Either way the shop’s location was well chosen as even in those days The Strand was a prime city centre location – the part of the City of Westminster running from Trafalgar Square to Waterloo Bridge. The shop was located between the Vaudeville and Adelphi Theatres and opposite the Grand Hotel Cecil². From Steward-named items published J.H. Steward issued catalogues and adverts in the “*The Slide Rule*” book by C. N. Pickworth, the number of listed rented company addresses, especially at any one time in London, appears strange and excessive:

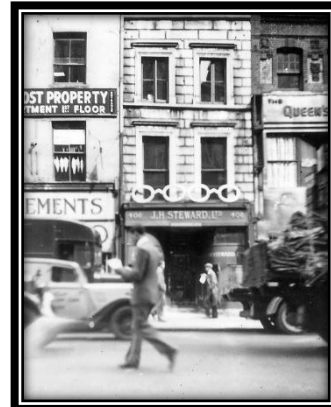


Fig. 4: Shop on The Strand

DATES	LOCATIONS
1856 - 1971	406, The Strand – London W.C. 2
1866 - +/-1893	54, Cornhill – London E.C. 3
1867 - +/-1930	63, St. Paul’s Churchyard – London E.C. 4
1869 - +/-1930	66, The Strand – London W.C. 2
1886 - 1928	457, West Strand – London W.C. 2
1893 - +/-1905	7, Gracechurch Street – London E.C 3
1971 – 1973	Catherine Street – London W.C. 2 (just around the corner from 406, The Strand)
1973 - 1975	154, Church Road, Hove, Sussex

Table 1: J.H. Steward’s empire of rented business premises/shops

² Demolished in 1930 and Shell Mex House built on the site – subsequently sold by Shell in the late 1990s.

The Steward family tree provides part of the answer to the explosive growth of the business in the late 19th century and the need for multiple business locations in London:

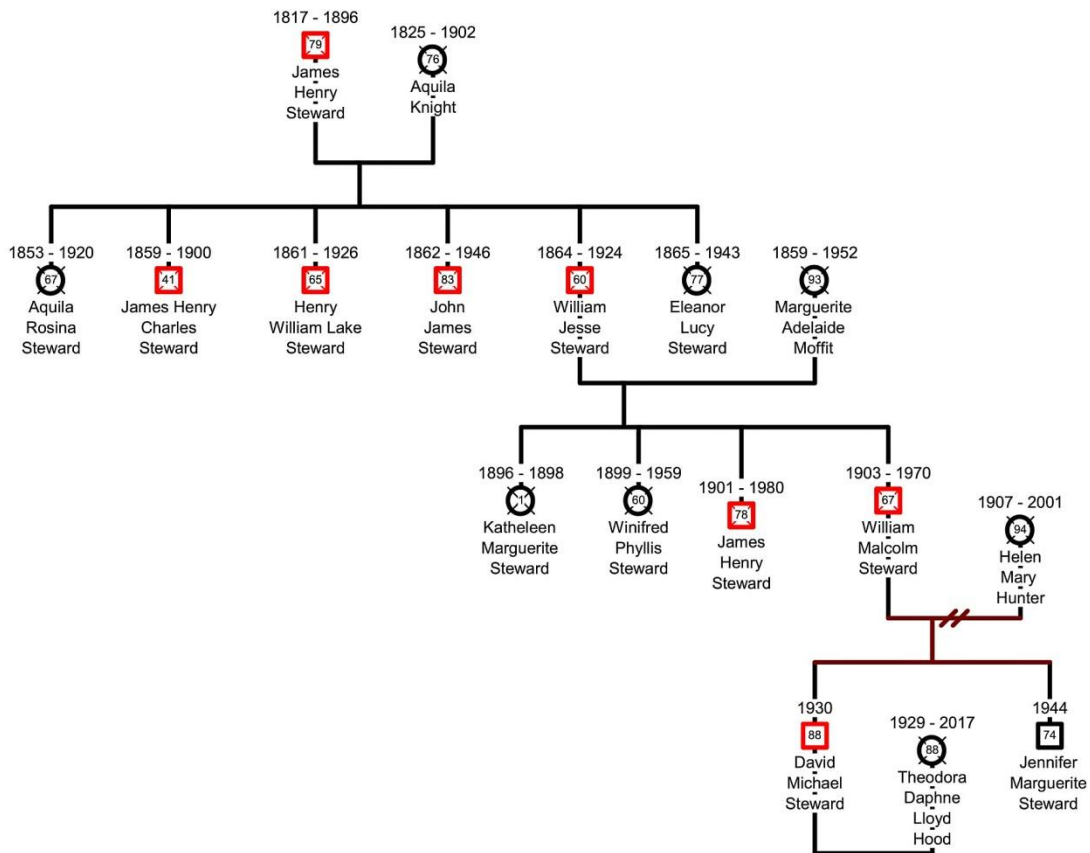


Fig. 5: **JAMES HENRY STEWARD** family tree – main *J.H. Steward Ltd.* related lineage is shown in red

When of age, each of the founder’s four sons joined the business. So by the mid-1880s it was not only an expanding family business but had become a family dynasty as each son was given his own rented shop in London to run. But right up to the twilight years the shop on The Strand remained the business’ “head office” and the mainstay of the family empire. In 1928 plans to demolish 457, West Strand prompted that branch to relocate to the head office. Not long after the severe “Great Depression of the 1930s” meant that the Steward empire, like so many other businesses, had to “downsize”. After closing all the shops except 406, The Strand the company bought the freehold of the head office and continued operating from it for the next 40 years.

Throughout its long trading history the J.H. Steward company and many members of the family maintained strong ties to the NRA and competition shooting events. The NRA records show that at the end of the 19th century the NRA bestowed a Life Membership on 7 Steward family members – an accolade given occasionally by the NRA to representatives of certain companies.

First presented by J. H. Steward Ltd. in 1902, the “*Steward Trophy*” is still an annual competition for teams of four from any rifle club affiliated to the NRA. There is also evidence that many family members were fine shots – in particular John James Steward (1862-1946). In 1913, he won the impressive NRA “*Imperial Tobacco Co. Trophy*” using a .303 calibre Lee-Enfield rifle. His score was 47 out of 50 at 1000 yards – 1913 being the last year that the competition was shot at 1000 yards.

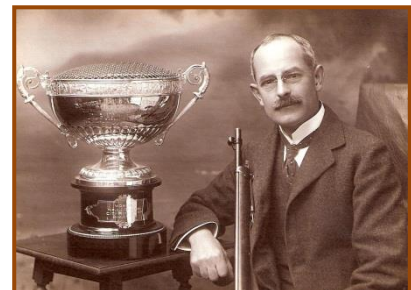


Fig. 6: **John James Steward** age 51

Instrument Maker or Retailer?

The glib answer is: “a bit of each”. In the 19th century all the Steward shops doubled up as opticians and as outlets for Steward-made scientific and mathematical instruments. This was its heyday. Led by the company founder, J.H. Steward Ltd. was researching and designing various optical improvements to binoculars, telescopes and rifle sights as well as an assortment of surveying scientific instruments. Nine British granted patents are evidence of the family business’ pioneering nature:

DATE	PATENT No.	INVENTED BY	DESCRIPTION
1895-06-26	GB189412309	J.H. Steward	<i>Improvements in Distance Measuring Instruments or Telemeters.</i>
1896-02-22	GB189507638	J.H. Steward & A.J. Wilson	<i>Improvements in Rifle Sight Adjusters.</i>
1897-01-16	GB189605563	J.H. Steward	<i>Improvements in Magnetic Compasses for Night Marching and Course Indicating.</i>
1897-03-20	GB189609204	J.H. Steward	<i>Improvements in Binocular Field and Opera Glasses.</i>
1897-07-03	GB189709492	J.H. Steward & W.J. Bosworth	<i>Improvements in Sketching Boards and Map Supporting Frames.</i>
1899-05-06	GB189906962	J.H. Steward	<i>Improvements in Binocular Field Glasses and Telescopes.</i>
1903-03-19	GB190207887	H.W.L. Steward & J.J. Steward	<i>Improvements in Cases for Carrying Binocular Field Glasses and the like.</i>
1904-10-13	GB190327429	H.W.L. Steward & J.J. Steward	<i>Improvements in Sketching Instruments.</i>
1911-12-07	GB191107500	H.W.L. Steward & J.J. Steward	<i>An Improved Recording Aneroid Barometer.</i>

Table 2: Patents held by the Steward family

The later, early 20th century entries show that two of the founder’s sons carried on their father’s pioneering design work by jointly securing three patents in their own names. From early on the company was obviously “marketing savvy”. In 1901 the company decided to take out a full-page advertisement in the “*Souvenir Edition of the Morning Post*”. The *Morning Post* was a popular trade magazine published in London. But the souvenir edition was special. It had the proportions of a book and was distributed globally through British Consulates and Exchanges, major hotels of the world, Steamship Companies, etc. J.H. Steward Ltd.’s advert was on the title-page of the “*Finance and Commerce*” section.



Fig. 7: Impressive J.H. Steward *Morning Post* advert from 1901

The 1901 advertisement features many of Steward’s patent related products but it also lists 9 illustrated catalogues. Today it would be called: “a company with a strong Internet presence.” The company believed so strongly in the power of marketing that it regularly (re)issued catalogues free-of-charge. From the outset each of the 9 main catalogues spawned a family of sub-sections or sibling catalogues – all “numbered” with a letter(s) of the alphabet. For example, “Section J - *Mathematical Drawing Instruments and Appliances*” of the main Catalogue 4: “*Surveying Instruments*”. The total Steward product portfolio ran into thousands and thousands of items. Each item they sold had a unique **x[x] nnn** catalogue product number– where “x[x]” was the letter(s) denoting the catalogue section and “nnn” a serial product number. For example, **J 199** – *10-inch K & E Log-Log Duplex slide rule* and **SM 663** - *The Halden Calculex*. They also took advantage of its international telegraphic/cable addresses, **TELEMETER**, and developed a shorthand “Telegraphic Code” for catalogue inspired orders:

TELEGRAPHIC CODE			
Inland Telegraphic Address	" TELEMETER, RAND, LONDON."
Cable Address	" TELEMETER, LONDON."
Send quotation with time for delivery of the following	...	Oblation	Apply for shipping instructions to Goods must all be here at the latest by
How soon can you deliver	...	Oblique	...
Quote price, packed and f.o.b. London	...	Obscure	All instruments to have metrical scales
Quotation received, send goods	...	Observe	Can deliver immediately
Quotation received, send goods omitting the following	...	Obstinate	Can deliver in
Put in hand at once	...	Obstruct	Order received
Remittance forwarded	...	Obviate	Order not yet received
Apply for payment to	...	Occult	Goods were forwarded to you on
Ship by parcel post	...	Occupy	Goods were forwarded to you by
Send by parcel post	...	Octavo	We are sending particulars by post
Send by letter post	...	Ocular	Answering your inquiry our price is
Send by cash on delivery service	...	Omega	Have received your letter or telegram and are giving the matter attention
Please supply the following	...	Opaque	...
			Obelisk
			Oblong
			Occur
			Obligate
			Officious
			Olive
			Onset
			Operate
			Ocean
			Ode

When ordering it will be sufficient to quote the letter J and the number printed against the article required, adding the necessary message from the code above.

Example :—" Octavo J 102, Occult, Jones, Queen Street, London."

Decoded, this would read :—" Send by Parcel Post a Pocket Morocco Case of Drawing Instruments apply for payment to Messrs. Jones, Queen Street, London."

Fig. 8: Steward developed private Telegraphic Code for orders

At the start of the 20th century the company changed its sales strategy. It was fast becoming a major international retailer and less of an instrument maker. Because of its strong ties to the military, British and Foreign governments and the outbreak of WW1 in 1914, the company probably kept some limited manufacturing capacity until the 1920s. But the subsequent depression driven downsizing meant that by 1930 any remaining J.H. Steward Ltd. workshops had closed and they had become solely a retailer – albeit with a world-wide client list.

Slide Rule makers?

J.H. Steward sold a wide variety of calculating devices – including many slide rules. But with the passage of time, it is impossible to say with any certainty if they ever made many of them. Clearly none of the patents the company held had anything specifically to do with slide rules. It was also not a business that the company could easily leverage their expertise in optics or their knowledge of all things military. For example, even in the company’s heyday, in a 1897 advert they describe themselves as: “*Agents for French-made Tavernier-Gravet slide rules*”. Early 20th century Steward catalogues all show J.H. Steward selling slide rules from named manufacturers. For example, from *Keuffel & Esser*, *A. W. Faber*, *Nestler*, *Fowler*, *Carbic*, *Halden*, and *Stanley*. But confusingly, alongside slide rules from such famous makers, two catalogues also list replacement “own brand” J.H. Steward cursors.

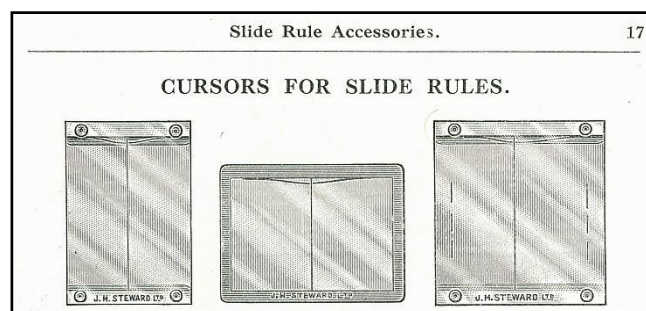


Fig. 9: Steward “own brand” or Steward-made replacement cursors?

Steward undoubtedly sold thousands of “own brand” items. The most likely explanation is that because of their successful track record and global reach they could demand that many Original Equipment Manufacturers (OEMs) labelled items with the “J.H. Steward” brand name. It was three such own brand items in my collection that first got me interested in J.H. Steward:

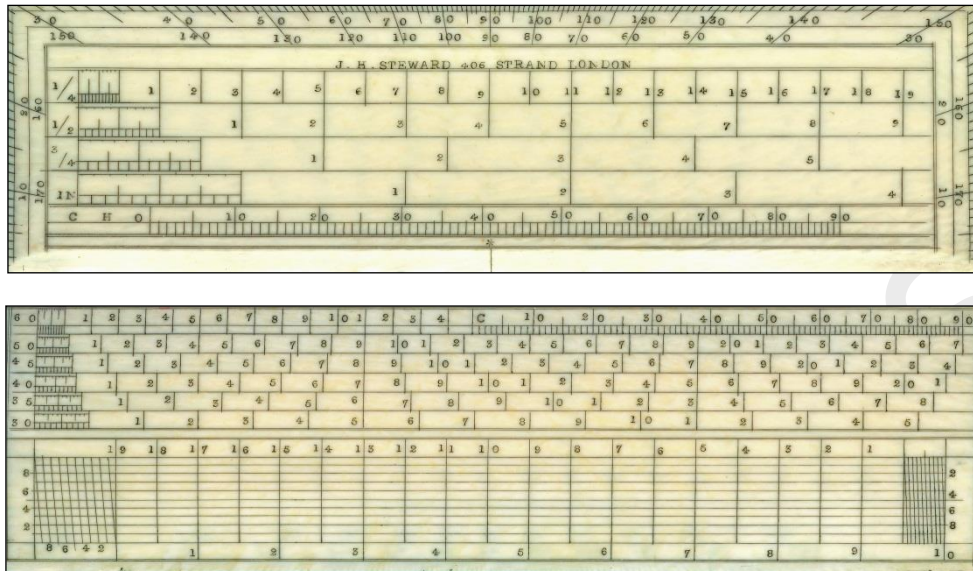


Fig. 10: Steward 6 x 1 1/4 inch ivory 0-360° imperial Rectangular Protractor

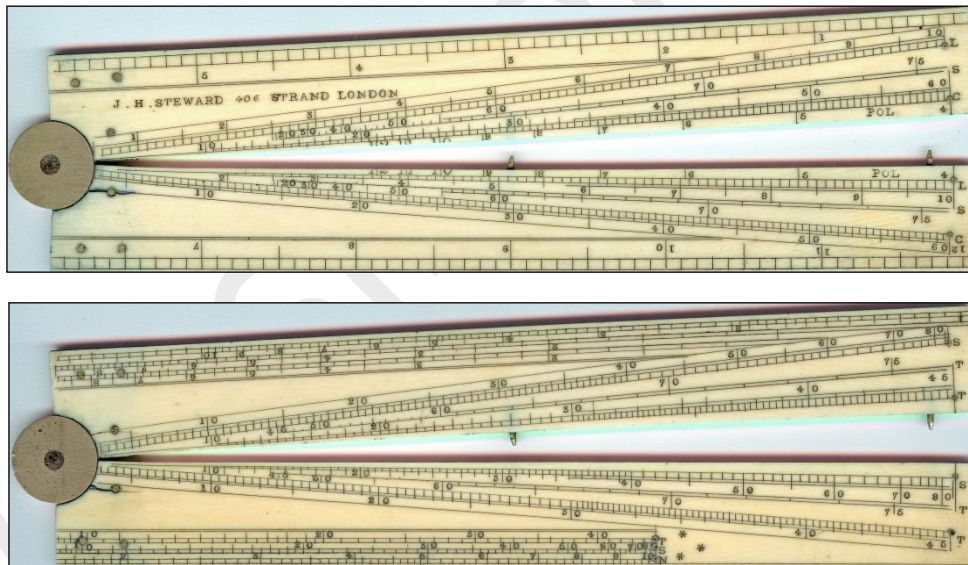


Fig. 11: Steward 6 inch round-hinged 2-fold ivory “English” Sector

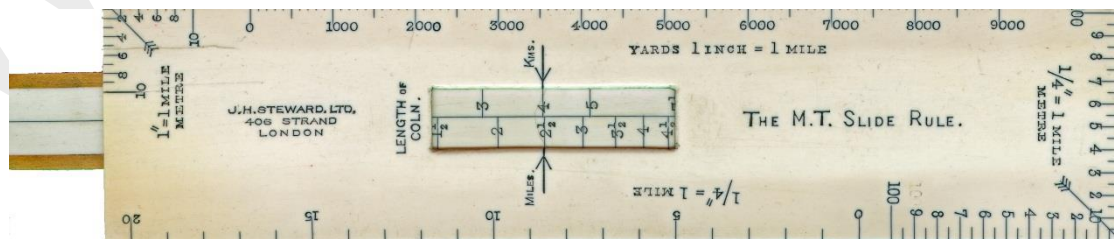


Fig. 12a: Steward 7 x 1 1/8 x 5/16 inch wood and ivorine veneered M.T. Slide Rule - front

The first two items are largely self-explanatory and date from the early 20th century. But the Motor Transport (M.T.) rule³ is unusual.

As the name suggests, it is a rule for vehicle logistics and supply. The front face has a results window for calculations done with the scale layout on the back but it also has distance scales (imperial and metric) for use with ordnance survey maps. The two striking “ $\frac{1}{4}$ ” = 1 MILE METRE” and “1” = 1 MILE METRE” corner-edge scales are “coordinate measures” for use with squared maps – i.e. work out the position of a point within a square or area.

On the back, the scales on the top and bottom of the stock are for: (i) **TIME** in hours and minutes and (ii) **N^o.VEH** for the number of vehicles. On the slide there are two further scales: (i) **V.T.M.** for **Vehicles To the Mile** and (ii) **M.I.H.** for **Miles In an Hour** or miles per hour (mph). The four scales interact to answer the simple logistics formula: $Speed = Distance / Time$. For example, how long would it take a convoy of 100 vehicles with 40 vehicles to the mile, travelling at 30 mph to pass a crossroad intersection? With 40 set against 100, 30 mph gives the answer: **5 minutes**. The results window on the front face would show that the length of the convoy would be **2½ miles** or **4 kilometres**. It is a difficult rule to date. At one end of the stock and one end of the slide “438” is blind-stamped into the wood. This might be the serial product number but it could just as easily be a meaningless batch number. Given the nature of the construction, most likely the rule dates from the 1930s or the 1940s. As travelling in convoys is a favourite of the military and J.H. Steward had a strong military client base, it is likely that the main customers for this rule were military-based organisations.

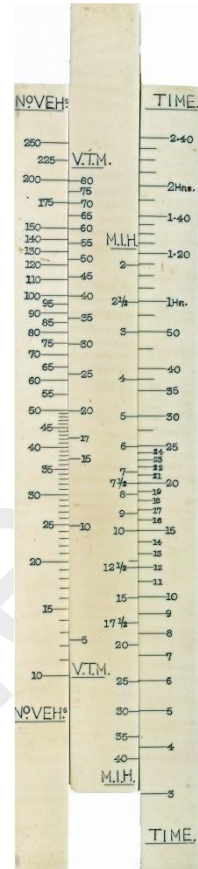


Fig. 12b: Steward $7 \times 1\frac{5}{8} \times \frac{5}{16}$ inch wood and ivorine veneered M.T. Slide Rule - back

Besides possibly making their own cursors, the most likely only other exceptions are *Hall's Nautical Slide Rule* and *Prof. Robert H. Smith's calculator* with helical scales. From 1900 to 1910 the company placed a full-page advert in every edition of C. N. Pickworth's “*The Slide Rule*” book proudly claiming they were the sole makers of both rules:

The advertisement is a rectangular box with a decorative border. At the top, it says 'xi ADVERTISEMENTS'. Below that, the main heading is 'TAVERNIER-GRAVÈ SLIDE RULE' in large, bold, serif letters. Underneath, it says 'CELLULOID SCALES ... GLASS CURSOR'. There is a small illustration of the slide rule. Below the illustration, there is a list of products and prices:

10 in. (25 c/m) Tavernier-Gravè Slide Rule, engine divided scales on white celluloid, glass cursor in metal mount	0 10 6
Case extra, 1s. 6d.; postage 3d., or to the Colonies, 1s. 6d.	
5 in. (12.5 c/m) Tavernier-Gravè Slide Rule, celluloid scales, glass cursor	0 10 6
14 in. (36 c/m) Do. do. do.	1 5 0
20 in. (50 c/m) Do. Case extra, 2s. do.	2 10 0
in wood case	

Below this, it says 'SOLE MAKER OF HALL'S NAUTICAL SLIDE RULE' and describes its use for navigation. Then it says 'SOLE MAKER OF THE R.H.S. CALCULATOR' and describes its logarithmic scale. At the bottom, it says 'CATALOGUE. PART IV. Surveying, Mathematical and Nautical Instruments, including Theodolites, Tachometers, Levels, Pocket Telemeters, Clinometers, Prismatic and Luminous Compasses. POST FREE ON APPLICATION'. The name 'J. H. STEWARD, OPTICIAN to the BRITISH and FOREIGN GOVERNMENTS' is prominently displayed, along with the address '406 & 457 Strand, LONDON' and telegraphic and telephone addresses.

Fig. 13: Advert from the 1908 11th edition of Pickworth's book

³ Simpler and probably earlier version was known as the “Vee Tee Meter”.

Both Steward-made rules are very rare. The Hall rule was still being listed in a Steward catalogue from 1933. However, there is no reference to the RHS calculator being made or sold by Steward after 1910.

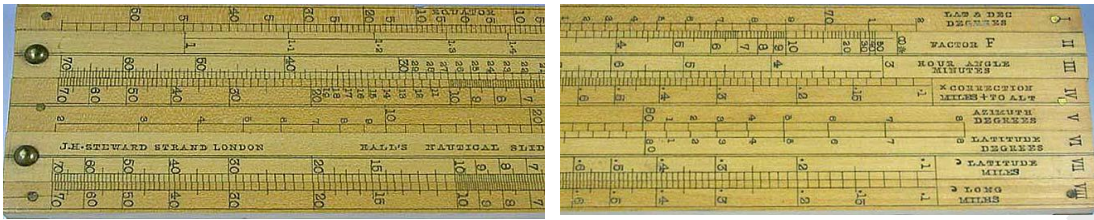


Fig. 14: Steward-made boxwood and brass simplex 13¼ x 2 inch Hall's Nautical Slide Rule



Fig. 15: Steward-made nickel-plated brass 9½ x Ø ¼ inch (50 inch helical scale) RHS Calculator

The Twilight Years

Following the tradition of the Victorian and Edwardian eras, the family business was passed on solely through the male line. After the four sons of the founder, the business passed to the two sons of William Jesse Steward (1864-1924). So from the mid-1930s brothers, James Henry Steward the younger (1901-1980) and William Malcolm Steward (1903-1970), jointly ran the business from the one remaining shop: 406, The Strand.

The two brothers carried on many of the company's traditions – even adding modern “own brand” slide rules such as the “ACE” to their product list. As with many J.H. Steward branded items, the OEM is a bit of a mystery. Comparing the fonts and typeface used there is a strong likeness between the “ACE” and slide rules made by the Swedish maker: *Norden*. The reason it is called the “ACE” or the significance of the unusually folded A/B scales is unknown.



Fig. 16: William Jesse Steward age +/- 60

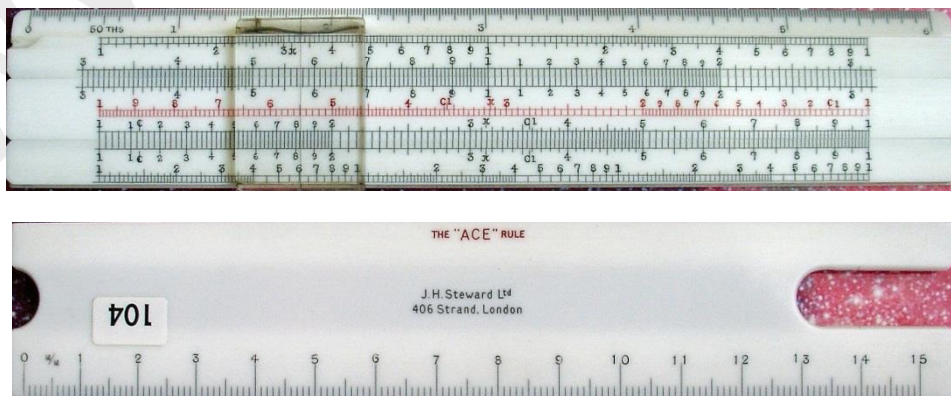


Fig. 17: Steward 5 x 1¹/₅ x 1¹/₆ inch solid frame plastic pocket “ACE” slide rule

Significantly after running the company for a decade, younger brother William Malcolm recognised that the business was slowly but inevitably edging closer to its twilight years. So much so he was adamant that his own son, David Michael Steward, should not join the family business. However, unexpected events can derail the best laid plans. In April 1970 William Malcolm Steward suddenly died. Tragically it happened when his elder brother's health was also failing – James Henry was, after all, by now well past the normal retiring age. This meant that despite his late father's wishes, the founder's great-grandson David Michael Steward and his wife suddenly had to step in and start running the business.

In 1971, after selling the head office they moved all the remaining stock and long serving staff member, George Goble (approx. 1916-1975), around the corner to rented premises in Catherine Street (see: Table 1). George, a dispensing optician, was now the only member of staff – running the shop but mainly retained to provide a service to long-standing customers and to reduce the stock levels. Then the remaining instrument part of the business finally moved out of London to Hove, Sussex in 1973 – a seaside town on the south-east coast of the UK. In 1975, despite the efforts of the founder's great-grandson and his wife, the business closed its doors for the last time.



Fig. 18: George Goble (left) & James Henry Steward at an NRA Bisley meeting around 1970

Fortunately three good homes were found for the remaining stock George had not sold:

1. **The Science Museum** in South Kensington – some Steward items became part of a small exhibition
2. **Whipple Museum of History and Science** in Cambridge – acquired hundreds of items and set up the special “*J H Steward Collection*”
3. **The National Maritime Museum** in Greenwich – currently six Steward items can be browsed online

Before the business moved to Hove, George approached his niece, Elizabeth Goldsmith nee Bath, about the pending demise of his prestigious employer. The married daughter of George's sister ran a Bristol-based optician's business with her husband, Simon Goldsmith. In 1972, to make sure a highly respected trading name steeped in family history was not lost and to ensure the close cooperation with the NRA continued, Simon and Elizabeth Goldsmith founded: “*J.H. Steward (Bisley) Ltd.*” Like past members of the Steward dynasty they now regularly attend all the major NRA shooting meetings held in Bisley and retail many shooting related optical items.

In 1975 David Michael Steward sold the company and the goodwill to Suffolk-based *Newbold and Bulford* - makers of ophthalmic lenses and instruments with the trade name: *Enbeeco*.

Other unsung heroes?

This was the story of a formidable family dynasty. Four generations of the Steward family successful ran a company famous as opticians, scientific and mathematical instrument makers and a major international retailer. J.H. Steward Ltd. was impressively in business for over 120 years but after being sold was inexplicably almost “forgotten” overnight.

The last of the J.H. Steward Ltd. family dynasty, David Michael Steward and his wife Theodora retired to Castle Douglas, Scotland. Later Theodora developed dementia and it forced a move back to East Sussex to be close to family. Sadly she passed away in 2017.

My challenge to fellow collectors is to check what you have in your collections. Find something from a little-known maker or supplier and write about another unsung hero we need to hear about.

Acknowledgements

Without some lucky breaks and help this article could not have been written. I would particularly like to thank:

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- **Simon Goldsmith:** for images and information on how he and his wife came to set-up: “*J.H. Steward (Bisley) Limited*”.

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