

Skid Stick

June 2003

No.14

NEWSLETTER of the UK SLIDE RULE CIRCLE

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Editorial

Whilst this little publication only appears three times per year, it does afford a greater immediacy of response than our annual Gazette. This has led to a number of member's questions and queries being answered for the benefit of all. This has been especially noticeable recently but in fact it goes back some time, witness the case of Francis Well's article on "UNIS" back in Issue 6 (October, 2000) which has led ultimately to what might be considered the definitive answer from Willy Robbrecht in Issue 13. Another success was Dieter von Jezierski's response to my enquiry about U534 (though we still don't know what happened to the slide rule!) and in this issue we solve some more puzzles regarding P.I.C. cursors and Hienz Joss's, Watt's Range Finder. As editor I thank all those who have made contributions, however small. It makes my job easier, more pleasurable and, more informative for all our members.

So now we have been dragged screaming and kicking into the electronic age. We have a UKSRC website. Fear not those still listening to steam wireless. Our publications will continue as before, indeed they are our financial lifeblood, but the web does give us the opportunity to promote ourselves and our publications worldwide. Not only that but I hope it will bring new members and new information from all quarters. A special article on this subject is to be found elsewhere. Our thanks to Ron Manley for his expertise and initiative in organising this.

Peter Soole has kindly supplied some additional items for the **Blundell Archive**. Further details of these items will be given in the next issue when they will have been fully catalogued and recorded.

Photographic Interpreter's Slide Rule

Constance Babington Smith joined the RAF in July, 1940 and was commissioned six months later. In April, 1941 she began work as the only photographic interpreter in the aircraft section of the RAF's Central Interpretation Unit (later the Allied Central Interpretation Unit), and continued in charge of this section until VE-Day. She was mentioned in despatches in January, 1942 and was awarded the MBE in 1945. She was then attached to the USAAF for interpretation work in the Pacific theatre and in December, 1945 became the first British woman to receive the US Legion of Merit.



Flight Officer Constance Babington (Babs) Smith MBE, WAAF using her Photographic Interpretation Slide Rule.

Our thanks to Richard Rigby for the supply of this interesting and historic image which comes from the book; *Eyes of the RAF – A History of Photo-Reconnaissance* by Roy Conyers Nesbit, published by Alan Sutton Publishing Limited, 1996, and reproduced here with their kind permission.

ISBN 0 7509113 0 1

Life Saving Slide Rule

In January, 1916, the first of the Clyde-built *K* ships, the submarine *K13*, was undergoing sea trials and during her third dive the boiler room flooded and the vessel sank in nearly 20 metres of water. The tragedy cost the lives of 31 men, both naval and civilian, either trapped or attempting to escape. A further 48 men were trapped in the fore end for two and a half days while attempts were made to pump air into the ship so raising her bows to the surface. During this period, the captain of *K14* who was on board as an observer, was lost in an escape attempt. Eventually the submarine's bow was raised and a hole cut in the hull to release the remaining survivors. Among these was the naval architect, Professor Percy Hillhouse "... who, according to his fellows on board, worked quietly with his slide rule and along with William Wallace, a director of Brown Brothers of Edinburgh, assisted the second in command in shutting watertight doors before making their escape". [Song of the Clyde, Fred M. Walker]

Range Finder

[In Skid Stick Issue 13, (page 2) Heinz Joss asked for help with information on his mystery range finder. Virtually by return he received the following comprehensive description of its function thanks to John Hunt Snr.]

I have not seen or even heard of your E.R.Watts range finder before, but I think I can shed light on how it was used. I think it was designed to replace the Apparatus Observation of Fire Slide Rule Mk VI which was manufactured by J.A.Nicholl & Co, London and Aston & Mander, also of London between 1908 to 1918.

The procedure whereby a gunnery officer (G) found the range of an enemy target was thus:- he obtained a bearing on the target (T) and he sent a lance-corporal or corporal (the Observer, O) at right angles to his line of the target a certain number of feet (distance GO) - in the war office training manuals they give examples of 25 feet and 75 feet. The Observer would then take a bearing on the same target and signal his bearing to the gunnery officer. The officer would then get a difference bearing by subtracting the two bearings to obtain the apex angle in the triangle representing the Target, the Observer and the Gun (TOG). The apex angle was then converted into minutes (60 minutes to a degree).

The Mk VI rule would then give the range of the target (in yards) = distance OG (in feet) x 1146 / angle TOG (in minutes). The Gunners Mark of 1146 was marked out in red for ease of use.

In your Mk II Watts Range Finder the above equation is very much simplified. The distance OG was taken out of the equation by the interchangeable scales. Also the Gunners Mark could be factored into the scales. All that would be required is to change the apex difference bearing into minutes and read off directly the range in yards - no multiplication, no division.

Your rule avoids all errors. The basic scale of the Mk VI App Obs of Fire Slide Rule is 1 - 10 - 100 - 1000 (feet or yards). Anything over 1000 yards you would have to use the 1 - 10 or is it 10 - 100 divisions? I could imagine a gunnery officer in the heat of battle making errors. And, in fact to get over this problem, and the problem of the lack of mathematically trained officers, they developed the "Field Plotter" which was basically two brass protractors separated on a movable scale.

Your rule is not mentioned anywhere in the Handbook of Artillery Instruments 1914 published by the War Office.

On page 5 of the current issue of Skid Stick is an advert for a pamphlet "Directions for the use of Artillery Instruments"*. I have not seen the pamphlet; maybe it is worth taking a look.

The German military avoided all this confusion by having lots of one man optical range finders!

A very interesting instrument and one to look-out for in car boots, antique fairs and ebay!

Regards,

John Hunt Snr.

[* There is no reference to this type of instrument in the handbook. It covers the use of the linear slide rule only. A more comprehensive article by John Hunt Snr is planned for Gazette 4, Autumn, 2003. Ed.]

Ponderings on pi Gerald Stancey

Probably the most common gauge marks to be found on slide rules are those that bear the simple relation with pi. For example, a Faber-Castell 1/87 Rietz rule carries the following:

- On the A, B, CI, C and D scales pi itself is clearly marked.
- On the C and D scales are q'' and q' which are used for small angles.
- On the C scale are C and C_1 for finding areas of circles.
- On A and B we find M at 31.8 (100/pi) 78.6 which aligns to $\pi/4$ on A/B.

Truly a plethora of gauge marks but who has ever used them all? In my days of slide rule pushing, in both production chemicals and metal fabrication, I made use of pi so I found the pi marks on A, B, CI, C and D useful. Having a three line cursor rendered the C and C_1 marks obsolete but I could see their use. I could also see that q' and q'' could be useful but whoever used M or 78.6? Indeed I feel that there is a lot to be said for the Burns Snodgrass view "The inclusion of many gauge points in a rule is to be deprecated".

What is of equal interest is to look at the absence of pi on some rules. My pre-war Faber Mannheim rule does not carry pi on the C or D scales. Didn't they realise that pi occurs in other equations apart from finding the area of a circle? However it does carry C and C_1 which is useful as it only has a single line cursor. It also carries the M mark but not the 78.6 mark. A similar vintage Hemmi rule is similarly equipped but also has q, q' and q'' marks.

The Thornton P271 carries pi on A, B, CI, C and D but has no C or C_1 marks and it only has a single line cursor. I assume that they credit one with knowing that the C mark can be derived from $\pi/4$ on A/B.

I am off now to my den to calculate the reactance of a coil. This is a simple linear calculation that involves pi. I will exercise a Hemmi rule, use the C and D scales and the fact that pi equals 22/7. Who needs gauge marks!!!

Membership Directory 2003

Despite checking there are some errors in the Directory. Please note the following amendments and accept my apologies. I hope these mistakes have not inconvenienced anyone.

Mick Taylor

Address should read : Bowers Hill Farm

Dave Nichols

Tel: 023 8025 4244

Davidnichols@btinternet.com

Chris Sangwin; please note correct spelling of Chris's surname and correct his address and e-mail:-

192 Weoley Park Road

C.J.Sangwin@bham.ac.uk

Joss and Schaub; please note that the national telephone code for Switzerland should read +41

Please also note the following revisions:

David Rance

Postcode: 2171

Brian 'Joe' Davies

Tel: 01256 770853

Jerry McCarthy

jerry_mccarthy@talk21.com

Change of e-mail address:-

Richard Rigby

Fashion Cottage@aol.com

Change of address:-

David Bateman

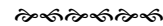
1 Craig Road

Workington

Cumbria CA14 3JU

Brian Turner

new postcode: GU52 6BW



A few days later Evelyn and I took a taxi over to St. Jame's Place. We were shown up to Victor's study, a light, scholarly room overlooking Green Park, and stamped with his extraordinary character- paintings, scientific diagrams, musical instruments, books ancient and modern, and on the wall a huge self-designed slide rule.

Spycatcher, Peter Wright, 1987



www.sliderules.org.uk

Ron Manley

The UKSRC now has its own web site. Its internet address is:

www.sliderules.org.uk

A draft web site was set up fairly quickly in February and a few members were asked to comment. After their comments were received the site was modified and then discussed at the April meeting near Evesham.

The reason for the rush at the start was that I was approached by a publisher who is bringing out a book called "Men and their

collections". I wanted to be able to mention the UKSRC web site as a form of publicity. In case you're wondering what I have let myself in for I should add that last year the publisher produced a book called "Men and their sheds". I was afraid that it would be a bit along the lines of "Why don't these old nerds get a life?" but in fact it was a wry look at the, surprisingly, wide range of things men get up to in their sheds. The text I have seen relating to my own collection was in a similar vein.

The most important thing to point out about the site is that it is not intended to replace anything else we do. It will not replace Skidstick nor the Gazette. Rather, it is intended to complement them and to provide a means of promoting them.

The site has 5 main sections.

The first is for membership. It describes what we do, what meetings we have held recently, how to become a member and when our next meeting will be held. The next section describes Skidstick with a brief description of the latest issue. The third section lists UKSRC publications, their content, cost and how to order them. There is a section with links to member's sites and final section called "magazine". This is where members can post articles. These will not be as heavy as those in the Gazette or Oughtred Journal but a bit more "meaty" than the discussion on the Egroups internet forum.

We have also taken a decision to keep the site relatively simple. This was done for a number of reasons – not least of which was to make it fairly easy to update. A web site which only has out of date information does not give a good impression. Another aspect of the site I want to develop is, in reports of meetings, to have pictures of slide rules rather than of (mainly) men looking at slide rules.

Whilst writing this I started to reflect on why people collect slide rules. For many, perhaps even most of us, it started off as a nostalgia thing: we couldn't afford a Faber Castell 2/84 when we were at University – now we can. However as we have got more involved we have got interested in things which were nothing to do with the original reason we started collecting. Few of us would have been interested in the niceties of Customs and Excise regulations for spirits – but many collect "alcohol" rules. Some members collect special purpose rules – and get interested in the science behind them. Perhaps we have to find

some way of persuading people to jump past the "nostalgia" thing to the real interest in slide rules - what they could do and how they did it.

The ultimate aim of the site is to attract new members. As one member reflected at the last meeting – if we don't get new members then the longest lived of the present members will end up with everyone else's collection!

"Local" Meeting

Our next local Autumn meeting is scheduled for Sunday, 19th October, 2003 at the home of Gerald Stancey who has again volunteered to host this event. Schedule and cost are as usual i.e. 10.30/11.00 start and £3.00 for lunch. A location map was given in Skid Stick, Issue 10 but anyone requiring a copy please contact the "office". The suggested theme for this meeting is folding engineers' and carpenters' rules plus, of course, any other gems you would like to display and perhaps have scanned for **Ron Manley's 2004 Calendar**.

As usual, it will be appreciated if participants advise our host two weeks in advance of their intention to attend.

Gerald Stancey
22 Peterborough Avenue, Oakham
Rutland LE15 6EB
01572 756444

P.I.C. Slide Rule No. 144

Nigel Panrucker

An article appeared in Gazette 3, Autumn, 2002 about the trig scales on this rule. I began to compile that article with a rule bearing an incorrect patent number, 411,090 and without an instruction booklet. The rule is dated 1950 and, when my article was complete, I learnt of two pre-war rules which had the correct patent number 468,257 dating from 1937. So it would seem that my rule might have rarity value but how much extra is that, if anything at all?

Similarly since completing the article, I have come across two different relevant instruction booklets. This rule is not unusual in having an instruction booklet specifically compiled because of its unusual scales. However, I do wonder why a second booklet was compiled by a different author but covering almost exactly the same ground. One

was by Dr. A.E. Clayton and the more elaborate one was by Prof. Miles Walker. This latter booklet even has a forward by Dr. A.E. Clayton. The only explanation I can come up with is one of prestige. Miles Walker was not only more senior academically but also a Fellow of the Royal Society. The title of Miles Walker's booklet refers to rules type E and F. Mine being type F with log-log scales (E is without), I should love to know which rules were regarded as types A, B, C, and D. Can anyone help please.

[The above mentioned instruction booklets are available in reprint form:

PIC AC Electrical Slide Rule (Clayton)

Order code: 08/02

PIC AC Electrical Slide Rule (Clayton), as above but an earlier edition with different cover

Order code: 08/22

PIC AC Electrical Rule (Models E and F) (Walker)

Order code: 08/17

Bookworm

A further batch of photo-reprints of slide rule instruction books has now been prepared and a full list of these, and other publications, may also be viewed on the website at www.sliderules.org.uk The new additions are briefly described here.

Instructions for the use of the MAGNAMETA Oil Tonnage Calculator, 4pp, Order No. 08/15, £1.00

Instructions for Using Davis Slide Rules, 14pp, Order No. 08/16, £1.00

"P.I.C." Instructions for the A.C. Electrical Slide Rule (Models E and F), 1940, 31pp, Order No. 08/17, £3.00

"P.I.C." Instructions for the P.I.C. Direct & Inverse Log-Log Differential Scales etc (Booklet No. 80), 30pp, Order No. 08/18, £3.00

"P.I.C." Instructions for the P.I.C. Differential Scales (Booklet No 81), 22pp, Order No. 08/19, £2.00

"P.I.C." Instructions for Standard, Reitz and Engineers' Patterns, (1940), 42pp, Order No. 08/20, £4.00

"P.I.C." Instructions for Standard, Rietz and Engineers' Patterns with Log-Log Scales, (Booklet No. 3660), (1954), 59pp., Order No. 08/21, £5.00

"P.I.C." Instructions for the A.C. Electrical Slide Rule, (As 08/2 with early cover variation and different printer), 15pp, Order No. 08/22, £2.00

The Slide Rule for Calculations in the Timber & Building Industries (Classic Rules), H.A.Garrod, 23pp, Order No. 08/23, £2.00

Instructions for Goldings Horse Power Computer for Steam, Oil & Gas Engines (Includes information for ditto Petrol Motors), (1908) 14pp, Order No. 08/24, £1.00

Slide Rule for the Use of Seamen, Capt. Chas. Le Patourel, Heath & Co., 1928, 40pp, Order No. 08/25, £4.00

The Slide Rule, its Operation & Digit Rules, A. Lovat Higgins, 4th Imp, 1926, 13pp, Order No. 08/26, £1.00

Guide to Farnar's Spirit-Rule, (1902), 27pp, Order No. 8/27, £3.00

Introduction to the slide rule (Unique), 8pp, Order No. 08/28, £1.00

Half Hour Instructions (Unique), 8pp, Order No. 08/29, £1.00

H. Chatelaine, Boucher's Calculating Circle, 24pp, Order No. 08/30, £3.00

"2 x 3 ... approximately 6

Calculating on Slide Rule and Disc.

IJzebrand Schiutema, Herman van Herwijnen, Astragal Press, ISBN 1 931626 04 9

Many will be aware of this excellent book which is now available from Astragal Press complete with CD containing colour pictures of all the featured slide rules.

The price quoted in the U.S. is \$24.95.

Astragal Press
PO Box 239, Mendham, NJ 07945, USA
astragalpress@attglobal.net
www.astragalpress.com

In the UK contact:

Roy Arnold,
77 High Street, Needham Market
Ipswich, IP6 8AN
01449 720110

IM 2003

The Dutch Circle of Slide Rule Collectors is pleased to invite you to the 9th International Meeting of Slide Rule Collectors, from September 19th to 20th, 2003, in Breukelen and Amsterdam, The Netherlands.

The series of yearly Slide Rule Meetings started in 1995, and has grown into a popular event where slide rule collectors and enthusiasts can meet each other face to face in an attractive and sociable environment.

The IM2003 Organising Committee is preparing a very interesting programme of presentations, expositions and social events. Also mechanical calculators will have a place in this meeting.

Please look at our website
www.rekenlinialen.org

in the section "agenda", to read and download files with more IM2003 information and registration sheets.

We look forward to receive your registration by e-mail or post.

The Organising Committee hopes you will join us at IM2003.

Otto van Poelje (IM2003 contact)
OvPoelje@chello.nl

GB Patents

Word is received from Steve van Dulken at the British Library that patents from 1870 should all be available for downloading from www.Esp@ce.net from 'mid-summer 2003'.

Musings 14

Peter Hopp

Recent correspondence with someone in Australia included extracts from three of a series of books published by Halden, each included adverts for the Calculex. The three volumes were published at different times and each advert quoted the number sold - 10, 30 and 60 thousand respectively. This prompted some thoughts on the subjects of production numbers and rarity. Apart from the difficulty of trying to rationalise the publication dates with these figures, (sometime between 1909 for the earliest and maybe 1918 for the final) I had never guessed that so many had been sold let alone in such a short space of time. So why are Calculexes (Calculi?) so rare? If these figures are accurate and not just 'sales puff', over their life they must have sold well over 100,000 calculators and possibly up to a quarter of a million by the 1950's, and thus should be as common as muck! Are there many tens of thousands hanging around in people's drawers? These Musings prompted a delve for other relevant 'factoids':

- Edward Wilson's patent, for what we now recognise as the Calculex, was in 1903, though the Halden device has generally been thought of as being produced from about 1910. This new info means that the start of production is probably a few years earlier.

- It could also mean that the first figure of 10,000 sold by 1909 is probably optimistic.

- The 1998 OSJ Survey on Watch Pocket Calculators had 30 known Calculex examples as the second most popular device (~20%) after Fowler devices (~50%)

- The 30 known examples in the survey are about 1 in 10,000 of our estimated sales.

- This compares with just less than 1 in 10 known Fuller examples and slightly more than 1 in 50 Thacher's.

Thank goodness for numbered devices (Fuller's), where we have an accurate view of how many were made, when, and how many examples are now known. As for devices such as the Calculex and Fowler's, in all probability quoted sales numbers are not

accurate, and real production numbers will remain unknown. Where does this leave us? All we can say is that rarity is a fickle thing, and, if sales figures were highly inflated then



the device is still rare. Should one pay £80 and upwards for something where there are possibly 249,970 still lying around? That is a different argument for another day!

There has been some debate about the decision of the JOS to include articles on calculators, which also prompted comment on their quality. Inevitably the UKSRC must also look to its laurels and ensure that we are providing what the readership wants and maintain the high quality we have achieved to date. We have a major benefit with SkidStick as the carrier of more lightweight articles and the *Gazette* for heavyweight offerings. We have also never been quite so set on being a 'slide-rule only' organisation, though that is our main interest and hence our name. My opinion is that I would rather have a JOS with articles on calculators than no JOS at all, however, I also think that we have lots more years of slide rule articles, but that is up to our authors! If we stick to good old Parretto, (the 80:20 rule) with the majority of articles on slide rules I don't think we can go far wrong. Any comments?

IM 2002 at Leamington Spa and my regular request for new images prompted the response (thanks Ray) "why don't you look on the web?" with instructions to use Google on their 'images' with the promise of 3000 plus slide rule pictures. Now why did I not think of that? Fortunately (I say this advisedly, this many relevant pictures would have completely taken the fun out of this part of my hobby) all bar 6 were very dull images of slide rules! This edition's images are a little bit different in that they come from the web. The first, courtesy of David Rance, could be described as an 'artistic image' rather than the usual 'picture' from my



collection. They second is one from the Ray inspired Google search and is of an unknown person with slide rule and plough plane.

Aston & Mander Rules and Prices

Nigel Panrucker has kindly supplied the following information gleaned from *The Slide Rule* by G. A. Gunn, published by E. & F. N. Spon in 1928.

Mander's Steel Merchants Costing Slide Rule	...	70/-
Evans' Papermakers' Slide Rule	...	63/-
Dixon's Papermakers' Slide Rule	...	75/-
Thames Cardboard Box Makers' Slide Rule	...	52/6
Scott's Steel & Material Slide Rule, Office pattern, 16"	...	63/-
Ditto ditto Pocket pattern, 10"	...	60/-
Hoare's Timber Merchants' Slide Rule, Office pattern	...	42/-
Aston's Timber Slide Rule, Office pattern	...	52/6
Aston's Milk (Specific Gravity) Slide Rule	...	12/6
Aston's Midwife or Weeks & Days Slide Rule	...	21/-
Aston's Perfect No. 1 Double Slide Tin Plate Workers' Slide Rule	...	52/6
Astons' Perfect No. 2 Ditto ditto	...	63/-
Astons' Large No. 3 Size Ditto ditto	...	84/-
Astons' Harrow Mark Reducer, as supplied to Public Schools and Universities	...	21/-
Service Pattern Aluminium Range Finder Slide Rule	...	60/-
Rourke Artillery Range Finder Slide Rule, with metal cursor	...	31/6
Colonel Hill's Celluloid ditto	...	21/-
White's Boxwood, latest pattern ditto	...	31/6
Hoare's Tim Plate Calculation Slide Rule, 25"	...	50/-
Hoare's Steel Plate Calculation Slide Rule, 25"	...	57/-
Hoare's Calculation Slide Rule for iron and steel plates and bars, 25"	...	63/-
Ditto ditto pocket pattern, 12"	...	60/-
Hoare's Steel Sheet Slide Rule, Office pattern, 25"	...	63/-
Hoare's Large Steel Sheet Rule, combined English and metric systems	...	105/-
Ditto with English measurements only	...	70/-
The Anido Slide Rule with instructions	...	30/-
Compton 10" "Student" Celluloid-Faced Slide Rule, complete with cursor and book of instructions	...	10/6
Ditto 5" ditto ditto	...	7/6
Rietz Design, 10" Improved pattern Slide Rule with special cursor and book of instructions	...	27/6
Rietz Design, 20" ditto ditto	...	90/-
5" "Standard" Type, Celluloid-Faced Slide Rule with sliding cursor in leatherette case, and book of instructions	...	15/-
10" Ditto ditto	...	21/-
10" Ditto, Improved pattern	...	35/-
20" Ditto ditto	...	80/-
10" Improved Type Chemists' Slide Rule, complete with instructions	...	27/6
10" Electrical Engineers' Slide Rule with complete instructions	...	37/6
Hoare's Office Pattern General Calculation Slide Rule, 25", Improved pattern	...	42/-
Ditto 25" Simple pattern	...	30/-
Ditto Pocket Improved pattern, 12"	...	35/-
Ditto Simple pattern, 12"	...	25/-

Dixon's Triple Slide Rule, Office pattern	...	30/-
Major-General Hannington's General and Universal Calculation Slide Rule, complete in mahogany case, 30"	...	105/-
Ditto ditto 60"	...	147/6
Ditto ditto 120" as supplied to School of Economics, H.M. Census Office, Somerset House, National Health Insurance Dept., H.M. Stationery Office, and Colonial Government Depts., etc.	...	245/-



"The gunners fumed and cursed inaudibly, but made no protest at the delay, for even their dim intellects could grasp that the modern whaling industry is at base controlled, not by the reckless fishermen, but by steam and electricity and the slide rule, and by men who understand these things".

Of Whales and Men, R.B.Robertson, 1956



BLUNDELL Demonstration/Display Rules

Len Peach & Colin Barnes



Fig. 1a

We recently had occasion to compare examples of these large rules which we had in our collections and found that they were very different. This led to speculation as to how many variants were made and to what purpose. Figs. 1 & 1a show the 'Peach' rule which is 63 inches overall length (56 inch scale length) x 8¼ inches wide. The end bridging pieces are of clear transparent plastic and act as fixed cursors, both displaced to the left by about ¼" of the 1 and 10, the S, ST and T scales on the back of the slide being similarly displaced. The central bridging panel is of white and brown laminated plastic silk screen printed blue:

**BLUNDELL
RULES
LIMITED
WEYMOUTH –
ENGLAND
D.M.I.**

The maker's name also appears at the left bottom of the cursor, again in blue.

The scales are silk screen printed on white plastic laminated to softwood boards. These scales are butt-jointed at mid length indicating a limit to the size of silk screen printing available. The scale layout of the scales is as follows: K, A/B, C1, C/D, L with;

S, ST, T on the reverse of the slide. These are printed "upside down" probably for ease of turning when used in the environment of the classroom. The cursor measures 8 inches wide by 8.125 inches high and has three hairlines. Brass wall mounting brackets are positioned at the rule ends to counter the weight of the slide when extended.

The 'Barnes' rule, Fig. 2, is, by comparison, quite crude being constructed from what would appear to be standard tongue and groove softwood boards with three, three inch wide by 3/16 inch thick bridging pieces. The material appears to be a rigid plastic. These bridging pieces are screwed in place with steel countersunk head screws with brass cups.

The rule is 66 inches long (50½ inch scale length approx!) by 10.625 inches wide. The wooden boards are painted white with all black screen printing. The left hand end of the slide carries the wording:

**BLUNDELL
Made in England
802
DEMONSTRATION**

the scale layout being as the Blundell Academy 802 LogLog;

K, LL2, LL3, A/B, L, CI, C/D, S, T, ST

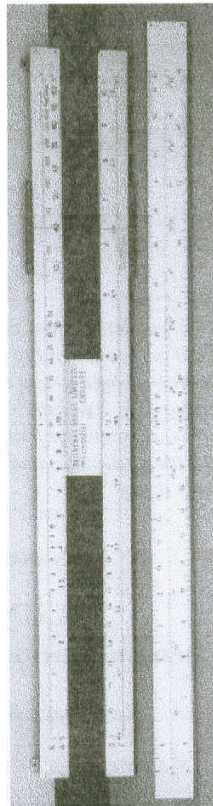


Fig. 1b

Unfortunately the original cursor is missing and there is no indication of any method of wall mounting or hanging brackets.



Fig. 2

There are two principal uses for these giant rules, retail and education and the theory has been put forward that the more basic construction of the 'Barnes' rule is more suited to promotional display, the plastic faced rule being a better design for the wear and tear of the classroom. This theory is not altogether satisfactory as the Blundell name is hardly prominently displayed and in the case of the 802 the word

Demonstrator appears. Furthermore, Peter Soole advises that, to the best of his knowledge, Blundells did not make any advertising display rules.

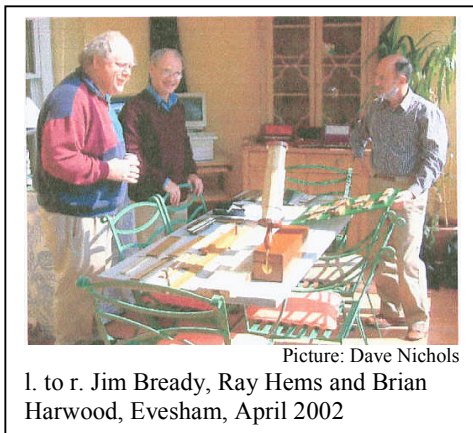
The authors would very much like to hear from anyone who has a similar Blundell (or other make for that matter) rule or who can shed further light on this subject. Incidentally, what is the significance of D.M.I. on the 'Peach' rule? The name of the Institute from whence it came?

UKSRC Spring Meeting, Evesham, 5th April 2003

Peter Hopp

Mick Taylor in the Cotswolds hosted our first 'local' meeting for a year, 10 members travelled considerable distances to be there. Brian Lloyd, Jim Bready, Dave Nichols, Derek Slater, Tom Martin, Ray Hems, Brian Harwood, Ron Manley, Colin Barnes, Gerald Stancey, Peter Soole and Peter Hopp once again managed to continue conversations started a year ago, or at the International meeting in Leamington, with hardly a break!

The 'theme' for the day was alcohol or excise rules, and we were treated to the most incredible display of such rules from Mick's extensive and absolutely unique collection – I now definitely know why he is called 'Mick the Rule'. There was also a wide variety of similar rules and other paraphernalia of the alcohol and excise trades from the other members, these included other alcohol related items such as hydrometers, dip rods and so on which made a pleasant addition to the usual slide rule topics. Tom Martin's incredible alcohol boiler (yet another method of ascertaining the strength of alcohol) was quite something to behold, while at the other extreme were the Density Beads. Other 'technical' items included an engine 'Indicator' (last seen and used in anger by your scribe at College some 40 years ago!) complete with Pickworth's book on the Indicator brought by Dave Nichols following some previous discussion, which is nice to see that these are occasions which are planned for, and all added to the breadth of discussion.



Picture: Dave Nichols

l. to r. Jim Bready, Ray Hems and Brian Harwood, Evesham, April 2002

As has been commented many times previously, coincidence is indeed a strange phenomenon, and this meeting was not unusual

in having its share of coincidences. Of note, identical D&P rules sold by Davis, and two slightly different editions of Pickworth's F-C instruction manual from the early part of the last century. Unusual slide rules abounded, of particular note due to the discussion they generated were a series of three Dargue 'Simplon' sub-ivory slide rules – what a lovely and unusual material, assumed to be some sort of phenolic or casein based substance, and the excellent condition Perspex cursored Fuller, as well as a multitude of other devices and ephemera.

Having enjoyed an excellent lunch and further general discussion, the small amount of formal 'business' included UKSRC publications, the new web-site being produced by Ron Manley, discussion on how else we can publicise our activities; and confirmation that the last International Meeting in Leamington Spa did finish up making a profit – well done the organisation committee of Jim Bready, Ray Hems and Ron Manley. The next UKSRC 'local' meeting is scheduled for the Autumn, date and location given in this issue of Skid Stick.

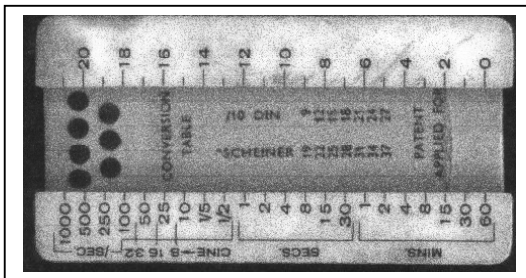
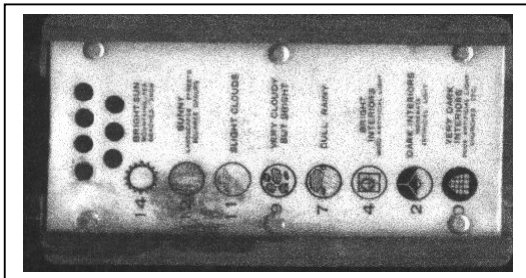
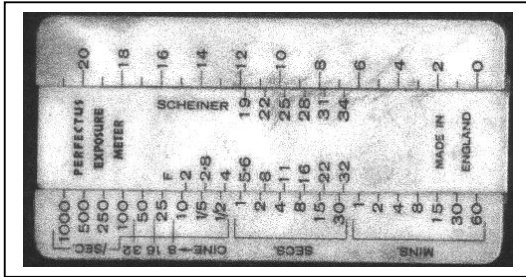
At about 4.30 the meeting broke up, the delegates replete with excellent hospitality and stimulating slide rule discussion heading back home having had a most enjoyable meeting. Our grateful thanks to Mick for a smashing day, and the "boss" for her admirable hospitality!

An Unusual Unique Slide Rule

Mark Butterworth

I recently acquired a small slide rule, 7.5 cms long, 4 cms wide and labelled "Perfectus Exposure Meter". It is made from a soft wood with plastic covered paper scales. It has the classical construction of a Unique slide rule and was almost certainly made by that company. This slide rule is a photographers extinction exposure meter.

In the well of the slide rule there are seven dark dots, each with a dimly visible number in the centre. Reading from left to right and from top to bottom they are numbered 1 to 7. The dots get darker the higher the number. By holding the meter at normal reading distance and pointing toward the subject to be photographed, it is possible look through the dots and note the darkest readable figure.



This is then compared to the list of light conditions on the reverse of the slide rule to give an exposure number. The Scheiner film sensitivity number is then set against this exposure number on the right hand scales of the slide rule. The required exposure time can then be read off the left hand scale against the desired lens aperture (f number).

In the well of the slide rule is a conversion table for Scheiner to DIN film sensitivity scales. The Scheiner scale was introduced in 1894 as the minimum exposure required to give a perceptible image. The German company, Agfa, introduced the German National Standard (DIN) in 1931 for film sensitivity to light. The BS / DIN / ASA international standards were introduced between 1960-62. Since the BS/ASA scales are not mentioned then this slide rule presumably dates before 1960.

It's another example of the Unique Company producing a (low cost?) specialist slide rule. This particular rule has obvious signs of use and a few stains from what look like film developing chemicals.

An unusual feature is the phrase "Patent Applied For" in the well. The Extinction system was a common method of construction for exposure meters and it's probable that the construction method (paper scales under plastic) was the only original, patentable feature of this slide rule. Certainly I have seen other examples of extinction slide rules of a similar size and design. The Unique slide rule company did not patent their slide rule construction methods, so it's surprising to see the "Patent Applied For" phrase on this item.

Another example of the Perfectus sold on ebay in 2002.

Letters to the Editor

Sir,

May I suggest a different view from that expressed by Gerald Stancey ("*Thoughts on Mannheim*", *Skid Stick, Issue 13*). He identifies some shortcomings of the Mannheim system and asks what could have been done in the early twentieth century. He also indicates an interesting arrangement of scales for a closed-frame slide rule.

Instead of alterations by Max Rietz (1902), I would offer those of Keuffel & Esser in their rule 4088-3 (1912) or J. Halden in his Calculex (1910) or Fowler in his Long Scale calculator (1927). All three offer multiplication, division, base-10 logs and sines. The duplex and Long Scale both have tan scales but the Calculex does not. The two circular devices overcome some of the limitations associated with the slide of a straight rule reaching an extreme position. Some users dislike using the C and D scales for multiplication for similar reasons. They prefer to use the A and B scales choosing to place the centre index line (10) on the slide against a number on the A scale. They accept that the accuracy is only half that of the C and D scales. This problem disappears on the circular rules and is solved by K & E with the introduction of folded C and D scales in addition to the ordinary C and D scales.

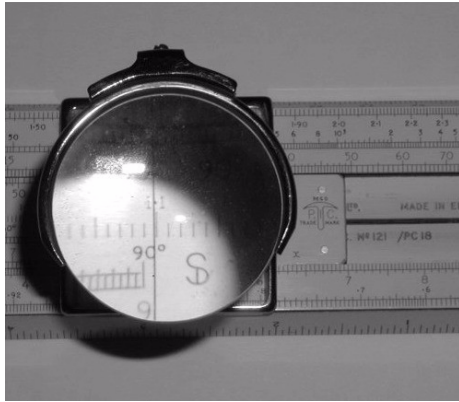
What is most interesting is that the scales proposed by Gerald are very close to those devised over a some ninety years earlier by K & E. They are K, A/S, T, CI/D, L (with DF/CF, CIF, C/D on the reverse). Gerald offered L, A/S, CI, C/D, T. For an early version of K & E's rule see fig.39, page 101 in the 2nd edition of *The Standard Manual of the Slide Rule* by J.E.Thompson – 1952.

Nigel Panrucker

P.I.C. Cursors The Cursor Finds a New Home

Richard Cook

In the last issue of Skid Stick I made a plea for a slide rule to fit my P.C.18E cursor and it is with many thanks that I can report a fantastic response from the membership. My particular thanks to Nigel Panrucker with whom I traded and obtained a suitable rule with a width across the stock of 39mm and to Gerald Stancey who supplied copies of a P.I.C. price list, the contents of which are given here for the benefit of others.



The price list is dated February, 1960 and gives the following information:

The scale presentation of P.I.C. Slide Rules has been recently redesigned as a result of which it has been necessary to make changes in Cursor widths.

To avoid confusion all the new patterns give the Catalogue Number of the correct Cursor in the trough of the Slide Rule immediately following that of the actual Rule, e.g. 121/P.C.18.

The following table gives both the new and the old Cursor Catalogue Numbers for the various models of Slide Rule, both current and discontinued.

<i>10 in. SLIDE RULES</i>	<i>New No.</i>	<i>Old No.</i>
101, 111, F157, F3634, F4458		
F3649, F3650, P.103, P113,		
P138, P3655, P4461, P3648		
P3652	P.C. 8	P.C. 7
121, 131, 4880, P123, P4881	P.C. 18	P.C. 8
P170, P171	P.C. 17	P.C. 4
P172, P172E, P173	P.C. 17	P.C. 7
144	P.C. 22	P.C. 12
P146	P.C. 30	P.C. 15

<i>20 in. SLIDE RULES</i>		
101, 112, F3756, F4459,		
F3646, F3651	P.C. 9	P.C. 9
122,132, 4882	P.C.10	P.C. 10
145	P.C.13	P.C. 13
<i>5 in. SLIDE RULES</i>		

V.P. 104	P.C. 1	P.C. 2
V.P. 114	P.C. 1	P.C. 3
V.P. 150, V.P. 3656	P.C. 2	P.C. 2
V.P. 124, V.P. 134, V.P. 4884	P.C. 5	P.C. 11
V.P. 147	P.C. 29	P.C.24

The quoted prices for the cursors are:

<i>CURSORS</i>	<i>s.</i>	<i>d.</i>
P.C. 1, 2, 5, 8,17, 18	6	6
P.C. 9, 10, 22, 29, 30	9	0
P.C. 13	10	6
F.4847, Magnifier, extra	19	6

Apart from being of general interest this information provides a benchmark for dating these rules i.e. without the addition of the cursor suffix to the model number puts the rule at pre-c1960.

A further document from Gerald, undated, but probably also about 1960, gives the following information:

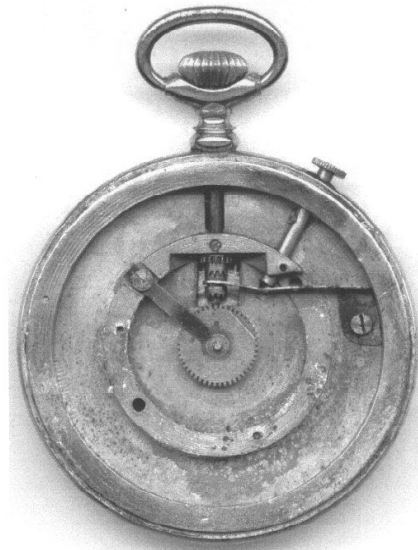
P.I.C. Slide Rule Cursors are of glass with narrow stainless finish frame and engraved hair-lines of minimum thickness.

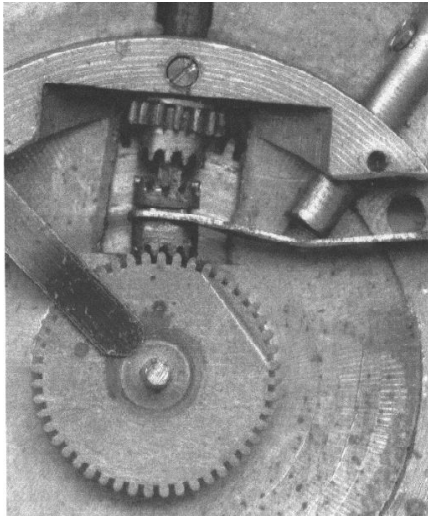
Unless otherwise specified three-line cursors are fitted as standard to all P.I.C. Slide Rules except F.157, V.P. 150, which have single-line cursors.

When ordering, please specify full Catalogue No. of Slide Rule for which Cursor is required. This is marked in the trough of the Rule, under the slide.

ps. The Calculigraph

I recently cracked open a can of beer and with my wife on standby holding a towel to mop my brow, I opened my Calculigraph. This is what I found:





I am convinced it will take a minimum of 3 more beers to re-assemble!

Scientific Instrument Fair

The date for the 35th International Antique Scientific and Medical Instrument Fair is Sunday, 26th October, 2003. The venue as usual, is the SAS Radisson Portman Hotel, Portman Square, London, W1.



Oliver Cromwell uses his Complex Number calculator to calculate his odds on winning his next battle! The original unadulterated picture is to be found in the Pepys Library, Magdalene College, Cambridge.

Picketts

Don't forget, the UKSRC still has a few aluminium Pickett slide rules for sale. Details are to be found in SS 12, page 10

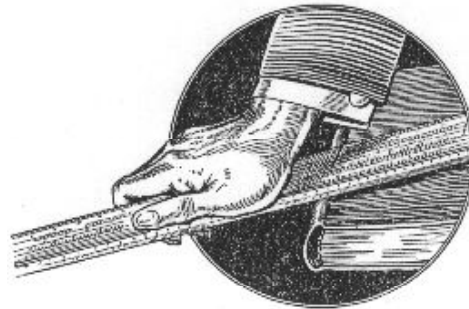


“And forty-seven thousand miles under this constant strain on the men concerned meant an even greater strain on the machinery, for – as our junior chief officer told me after bringing his slide rule out of his pistol pocket and making some rapid calculations – it involved some fifteen million revolutions of the ship's twin screws, and never once did the screws fail to turn in the direction and at the speed demanded by the officer on the bridge”.

Of Whales and Men, R.B.Robertson, 1956

Straightening Slide Rules!

The following advice on straightening Faber-Castell slide rules appears inside the back cover of at least one of their instruction books. This example will be found in a future UKSRC reprint, details next issue of SS.



*All A. W. Faber “Castell” Precision Calculating Rules from 5" scale length upwards are fitted with metal strips (patented) placed edgewise in the stock and slide which permit **the straightening of any rule that has curved** owing to unusual strain. Should a rule curve, place same on a desk, raise one end on a book or similar object and then apply slight pressure with the hand in the centre (see sketch). This will quickly adjust the rule.*