AccessionIndex: TCD-SCSS-U.20121208.044
Accession Date: 8-Dec-2012
Accession By: Prof.J.G.Byrne
Object name: Various Sliderules
Vintage: c.19xx
Synopsis: Sliderules.

Description:
The manufacturer of these sliderules is as yet unidentified.

Photographs courtesy Prof.J.G.Byrne and Dr.Arthur Hughes.

The homepage for this catalog is at: https://www.scss.tcd.ie/SCSSTreasuresCatalog/
Click *'Accession Index'* (1st column listed) for related folder, or *'About'* for further guidance.

Accession Index	Location	Vintage	Object and Identification
TCD-SCSS-U.20121208.044.01		c.19xx	*<Mfgr?> <model?>* sliderule. S/N: *<???>*
TCD-SCSS-U.20121208.044.02		c.19xx	
TCD-SCSS-U.20121208.044.03		c.198x	
TCD-SCSS-U.20121208.044.04		c.198x	
TCD-SCSS-U.20121208.044.05		c.19xx	
TCD-SCSS-U.20121208.044.06		c.198x	

The following instruction manuals are properly part of the literature category of this catalog, but are listed here too for convenience.

Accession Index	Object with Identification
TCD-SCSS-V.20121208.???	

References:
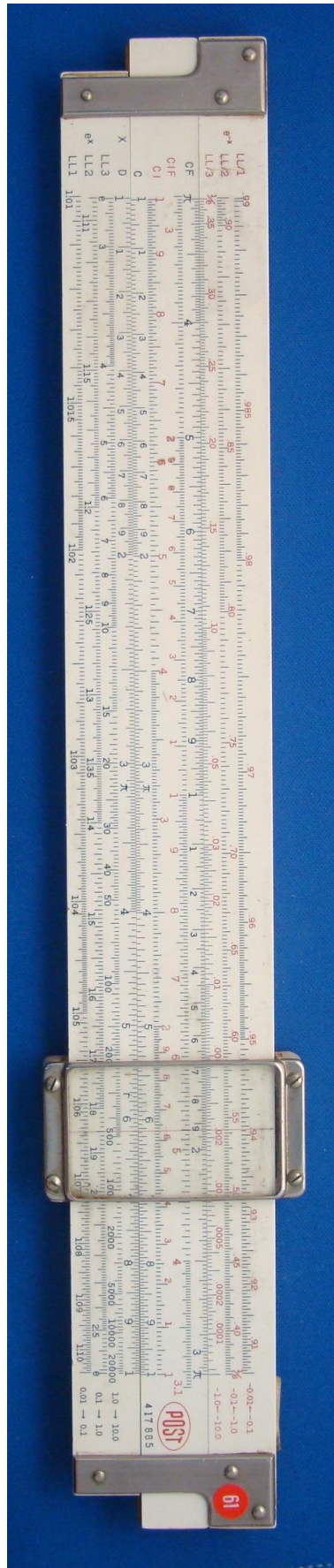
1. Author, *Title*. See:
   http://www.axxx.yyyy

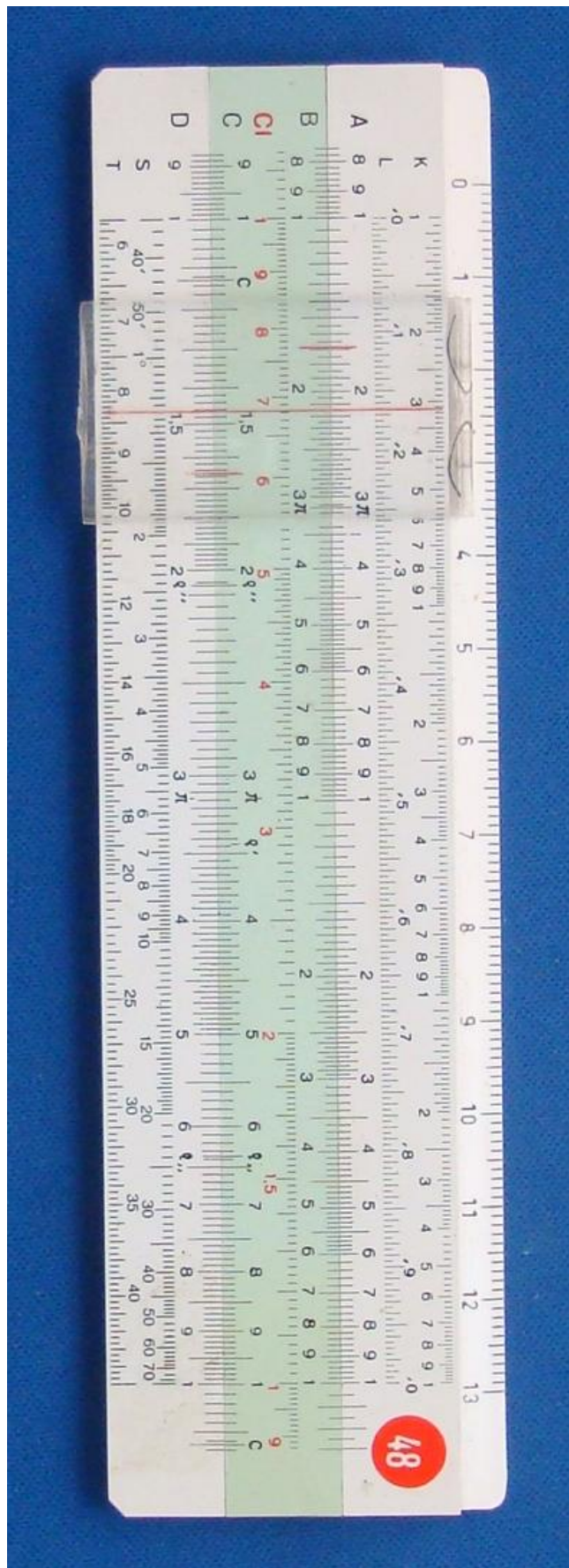*Figure 1: TCD-SCSS-U.20121208.044-fig01*
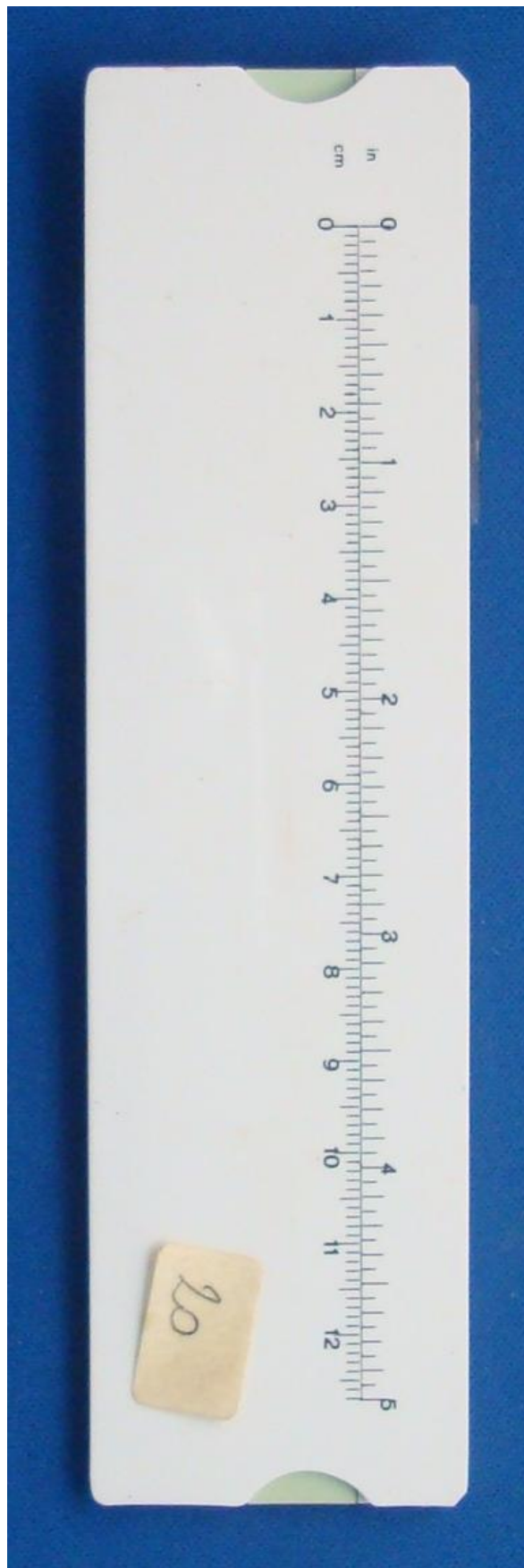
Figure 2: TCD-SCSS-U.20121208.044-fig02

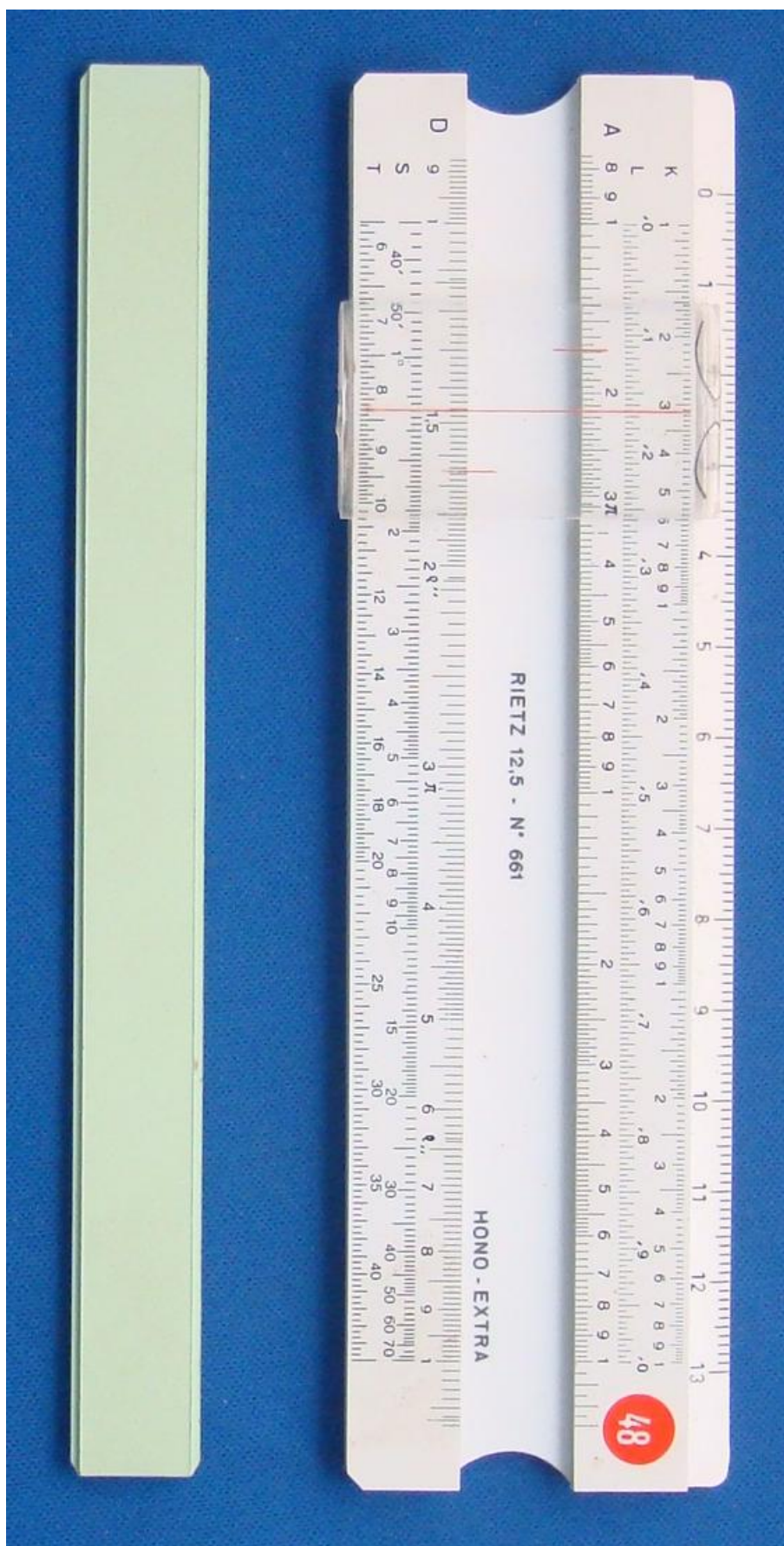*Figure 3: TCD-SCSS-U.20121208.044-fig03*

Figure 4: TCD-SCSS-U.20121208.044-fig04

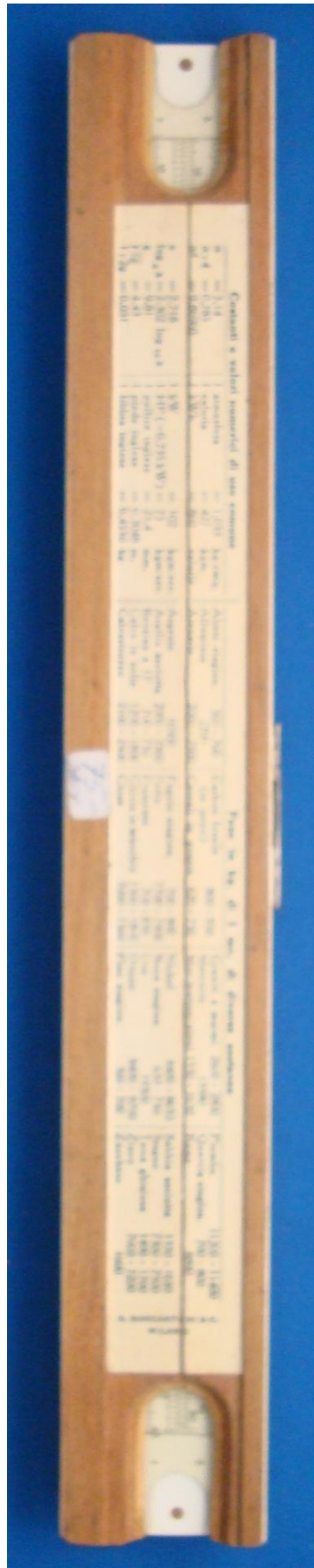*Figure 5: TCD-SCSS-U.20121208.044-fig05*

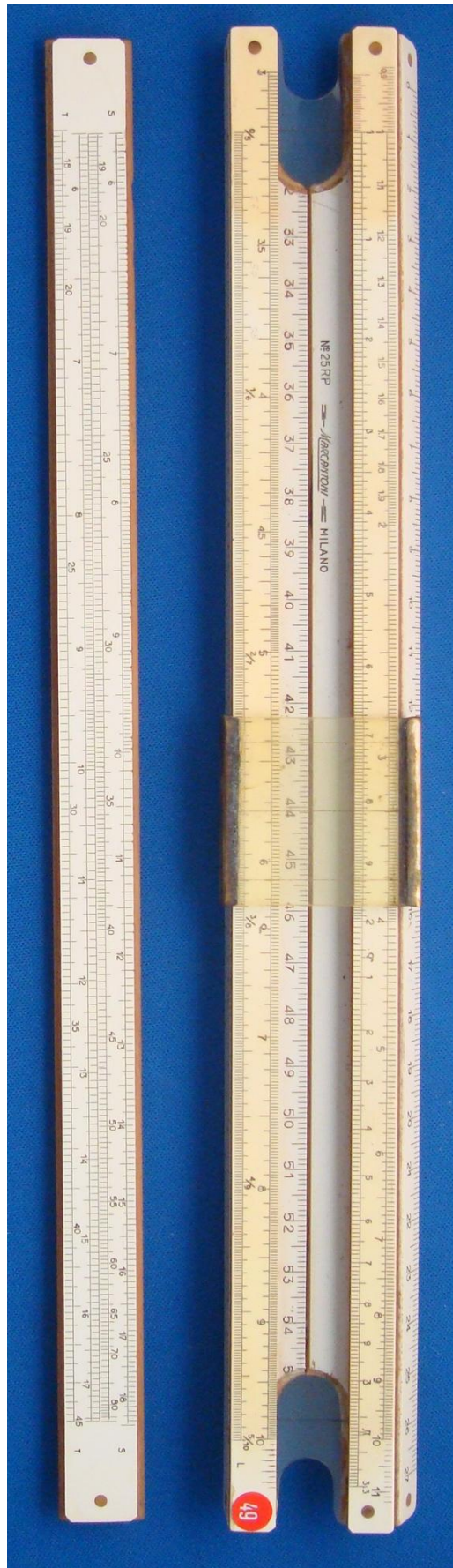*Figure 6: TCD-SCSS-U.20121208.044-fig06*

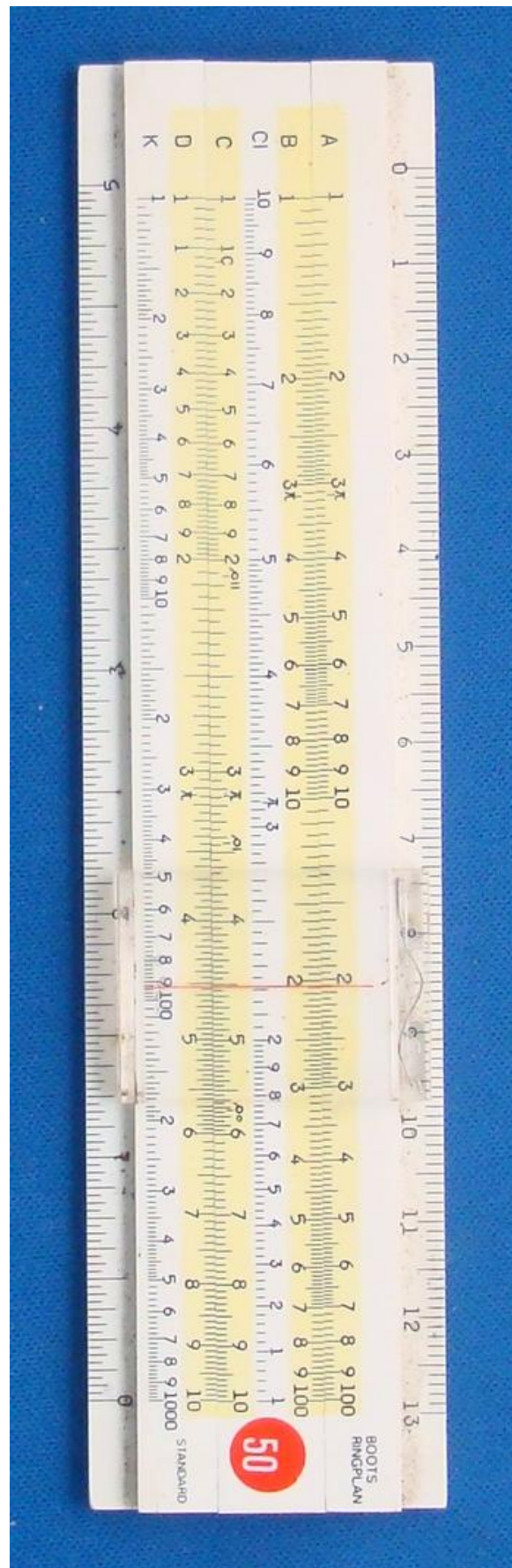*Figure 7: TCD-SCSS-U.20121208.044-fig07*

Figure 8: TCD-SCSS-U.20121208.044-fig08

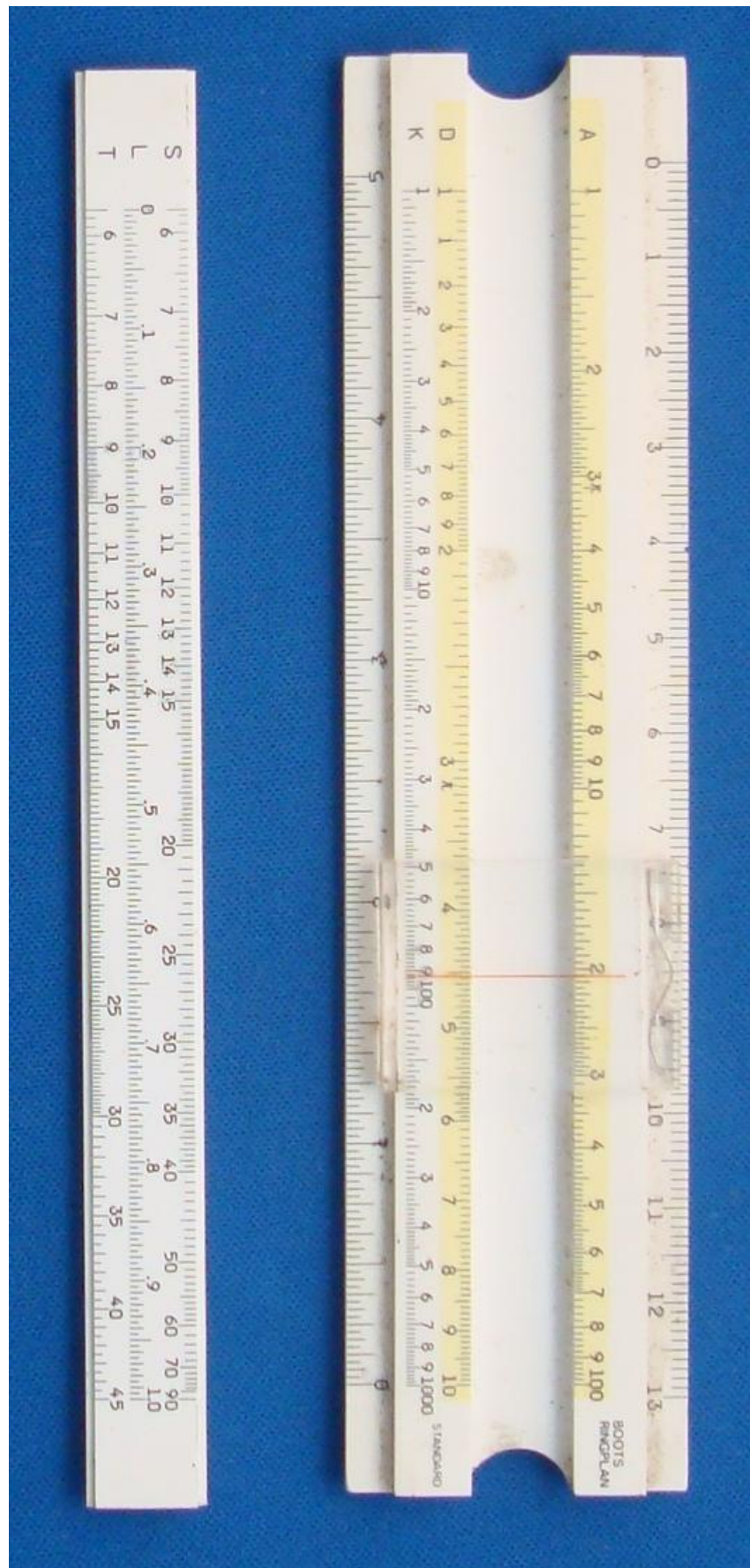*Figure 9: TCD-SCSS-U.20121208.044-fig09*

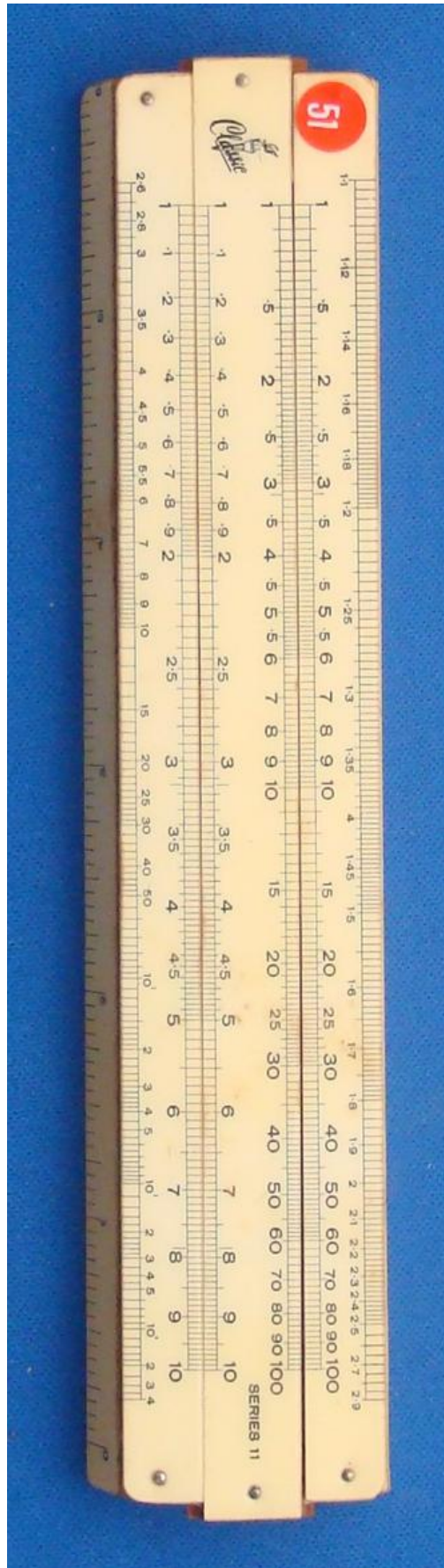*Figure 10: TCD-SCSS-U.20121208.044-fig10*

Decimal Equivalent

1/32	03125	17/32	53125
3/32	09375	19/32	59375
5/32	15625	21/32	65625
7/32	21875	23/32	71875
9/32	28125	25/32	78125
11/32	34375	27/32	84375
13/32	40625	29/32	90625
15/32	46875	31/32	96875

1 inch = 25.4 millimetres
1 foot = 0.3048 metres
1 yard = 0.91438 metres
1 mile = 1.6093 kilometres
1 sq. inch = 6.4513 sq. cms.
1 sq. foot = 9.29 sq. decimetres
1 sq. yard = 0.836 sq. metre
1 sq. mile = 258.9 hectares

1 millimetre = 0.03937 inches
1 metre = 3.2809 feet
1 metre = 1.0936 yards
1 kilometre = 0.6213 miles
1 sq. cm. = 0.155 sq. inches
1 sq. decimetre = 0.1076 sq. feet
1 sq. metre = 1.196 sq. yards
1 hectare = 0.00386 sq. miles

Densities of Metals lbs. per cubic inch

Platinum	0.78	Brass	0.31
Gold	0.69	Magnesium	0.063
Mercury	0.49	Nickel	0.31
Lead	0.41	Iron Cast	0.26
Silver	0.36	Steel	0.28
Bismuth	0.35	Tin	0.26
Copper	0.32	Aluminium	0.097

Figure 11: TCD-SCSS-U.20121208.044-fig11

Figure 12: TCD-SCSS-U.20121208.044-fig12

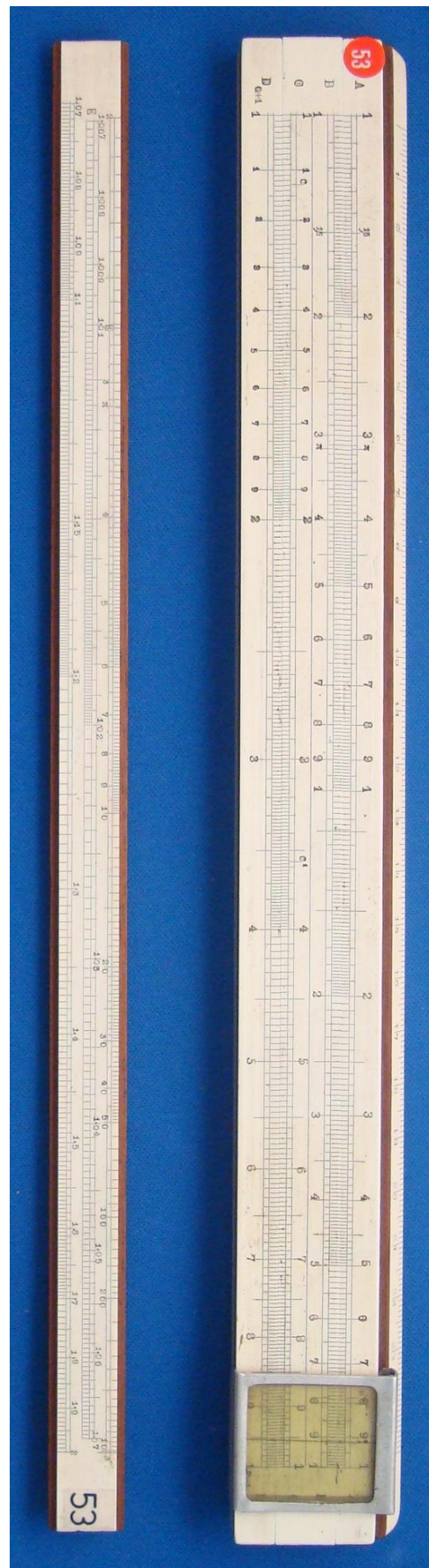*Figure 13: TCD-SCSS-U.20121208.044-fig13*

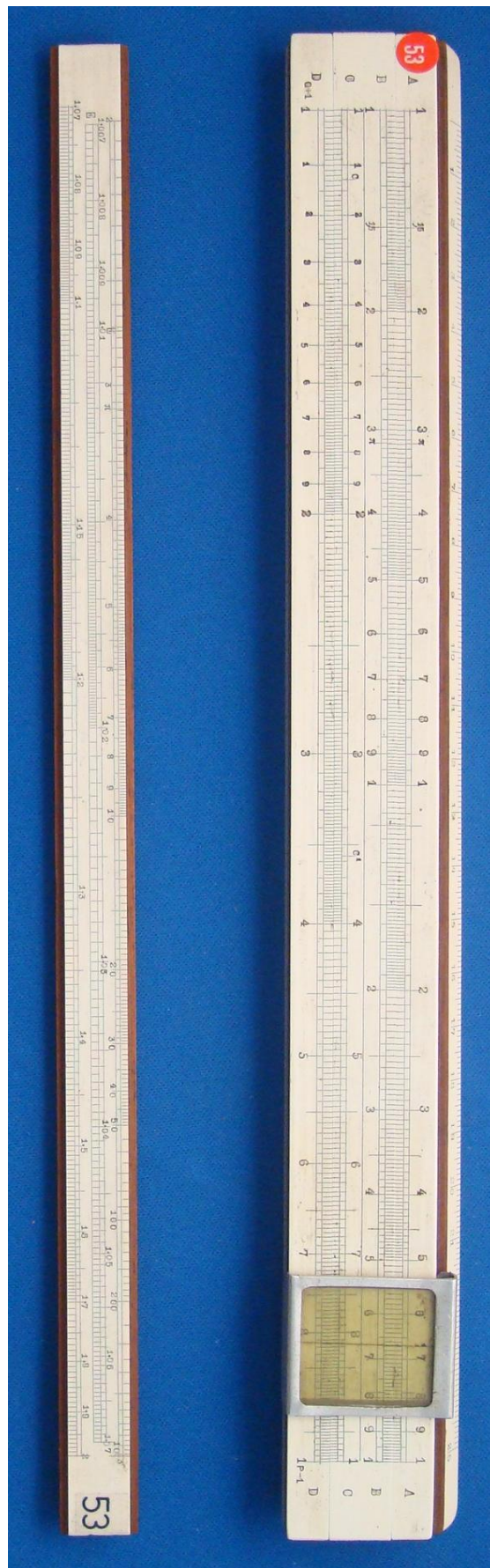*Figure 14: TCD-SCSS-U.20121208.044-fig14*

Figure 15: TCD-SCSS-U.20121208.044-fig15

Figure 16: TCD-SCSS-U.20121208.044-fig16

Figure 17: TCD-SCSS-U.20121208.044-fig17

Figure 18: TCD-SCSS-U.20121208.044-fig18

Figure 19: TCD-SCSS-U.20121208.044-fig19

Figure 20: TCD-SCSS-U.20121208.044-fig20

Figure 21: TCD-SCSS-U.20121208.044-fig21

Figure 22: TCD-SCSS-U.20121208.044-fig22

Figure 23: TCD-SCSS-U.20121208.044-fig23

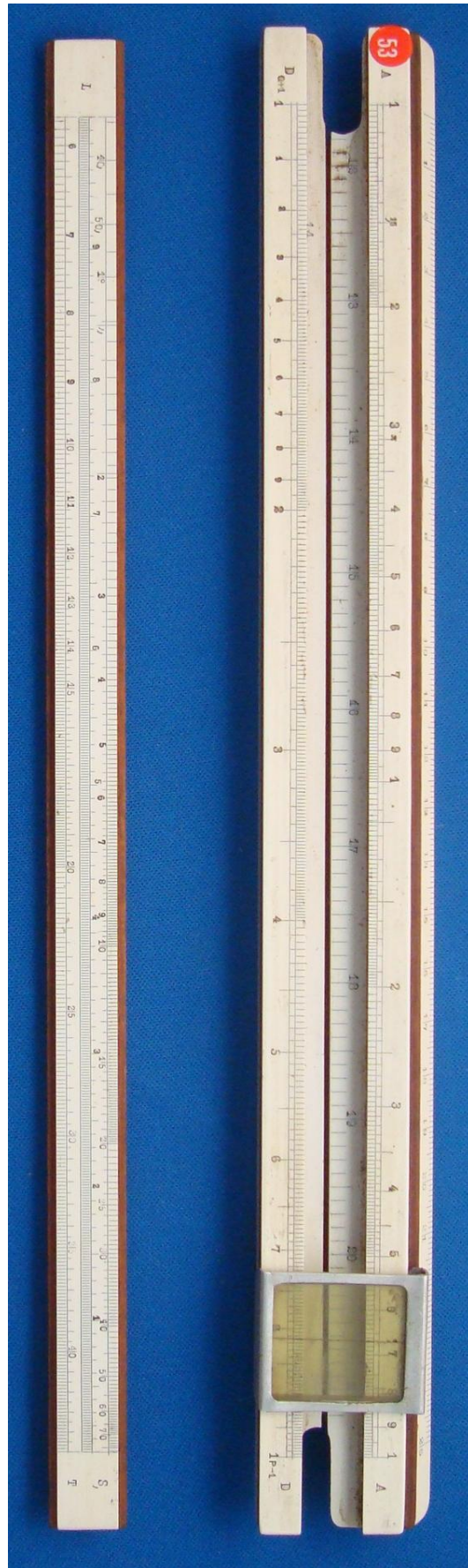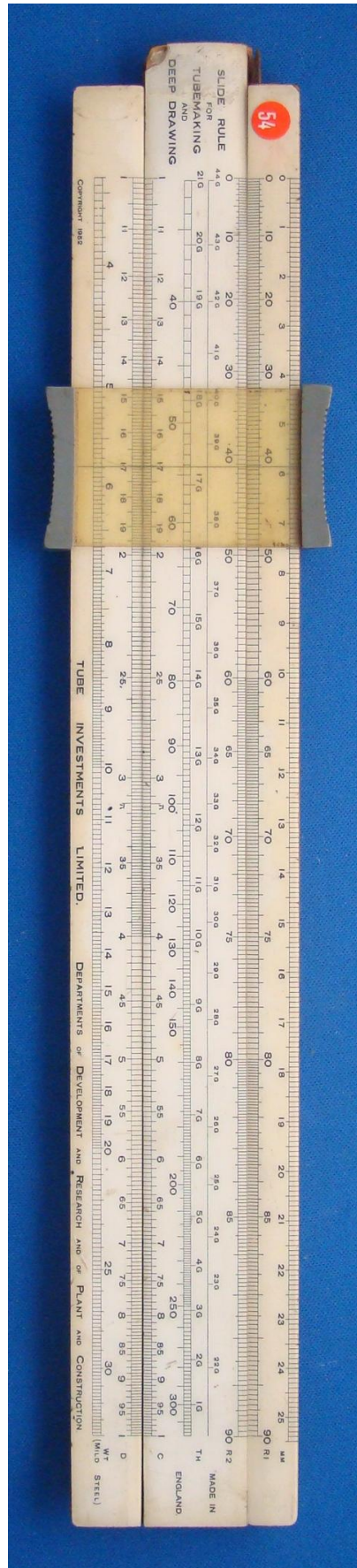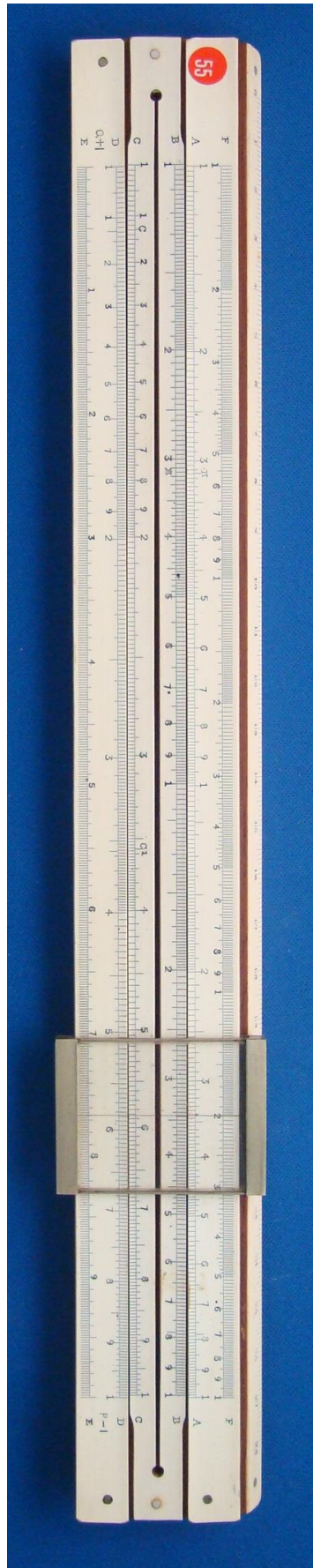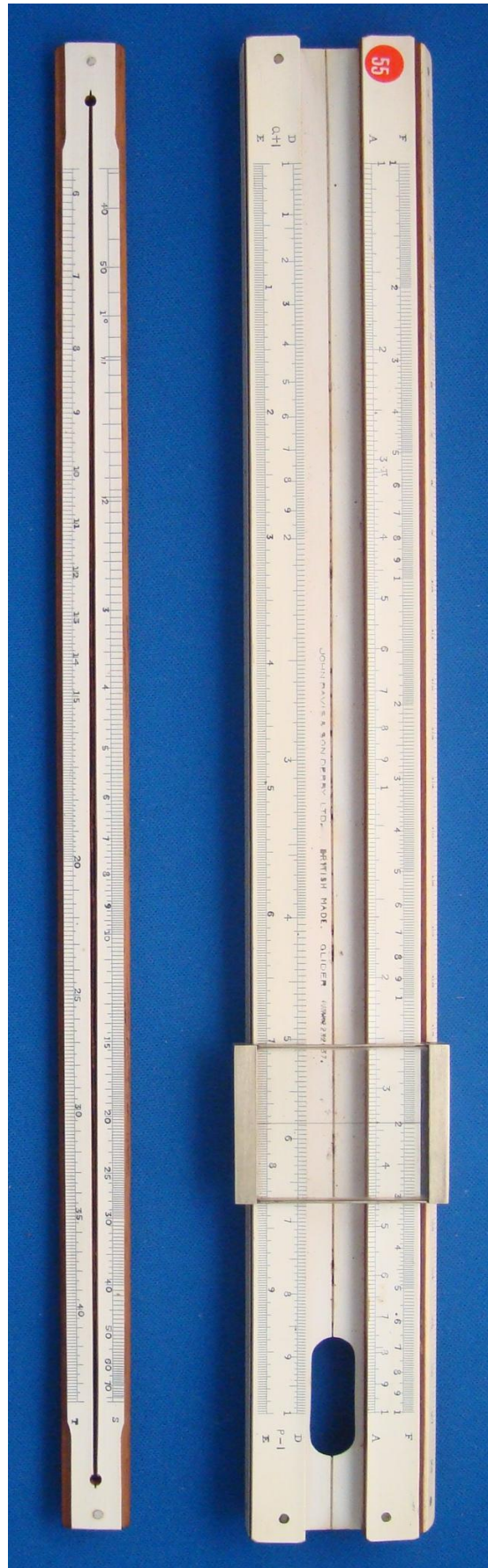*Figure 24: TCD-SCSS-U.20121208.044-fig24*
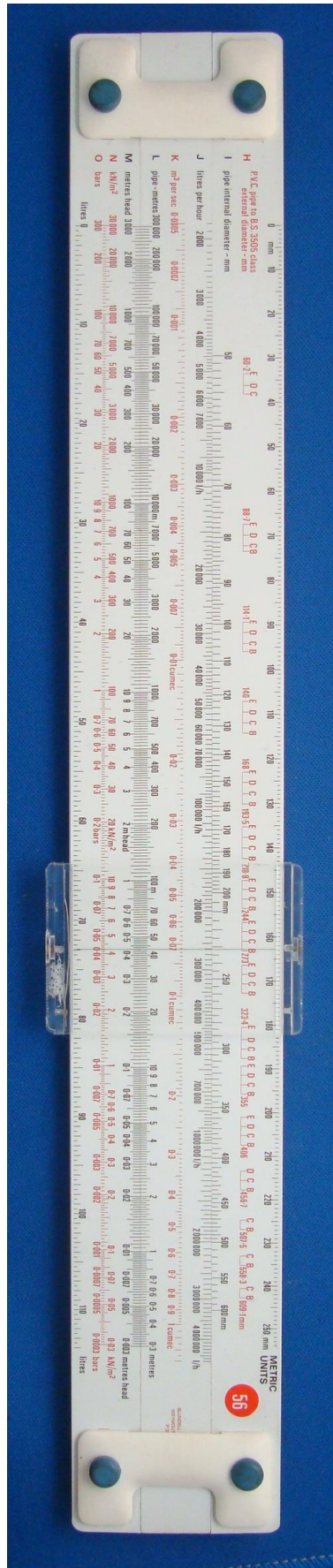
Figure 25: TCD-SCSS-U.20121208.044-fig25

THE WAVIN PIPE FRICTION COMPUTER AND METRICATION CONVERTOR

Instructions for use

(1) Scale "B" shows the Pipe INTERNAL DIAMETER between 2 and 24 inches, whilst Scale "A" indicates NOMINAL PIPE DIAMETER, according to B.S.S. CLASS.

(2) Scale "C" shows the rate of FLOW through a pipe in Gallons per hour, whilst Scale "D" indicates the equivalent flow in cubic feet per second.

(3) Scale "E" shows the LENGTH of PIPELINE in Feet.

(4) Scale "F" shows FRICTION LOSS through a pipeline in Feet Head Pressure, whilst Scale "G" indicates the equivalent pressure in Pounds per Square Inch.

(5) By means of the CURSOR, line-up any two out of the three variables known in quantity, (i.e. Diameter and Flow or Pipe Length and Pressure Loss). Next move the Cursor along the slide rule to line-up with the third variable of known quantity and the value of the fourth variable can be read directly off the adjacent scale.

For METRIC CONVERSION — Simply reverse the slide rule and read off values by means of the Cursor.

For METRIC OPERATION — Carry out Operation (5) above using Scales "H" to "O" as previously.

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Figure 27: TCD-SCSS-U.20121208.044-fig27

Figure 28: TCD-SCSS-U.20121208.044-fig28

Figure 29: TCD-SCSS-U.20121208.044-fig29

Figure 30: TCD-SCSS-U.20121208.044-fig30

Figure 31: TCD-SCSS-U.20121208.044-fig31
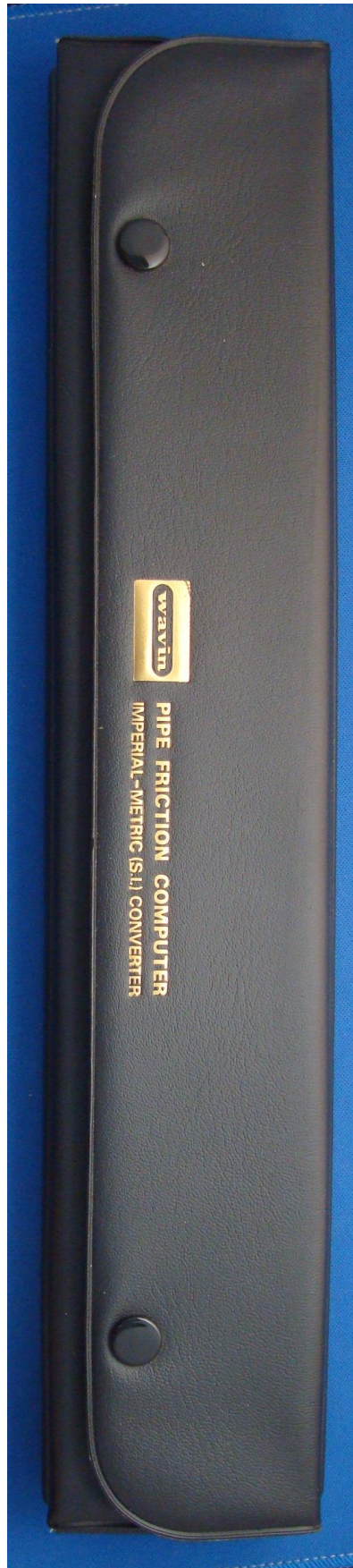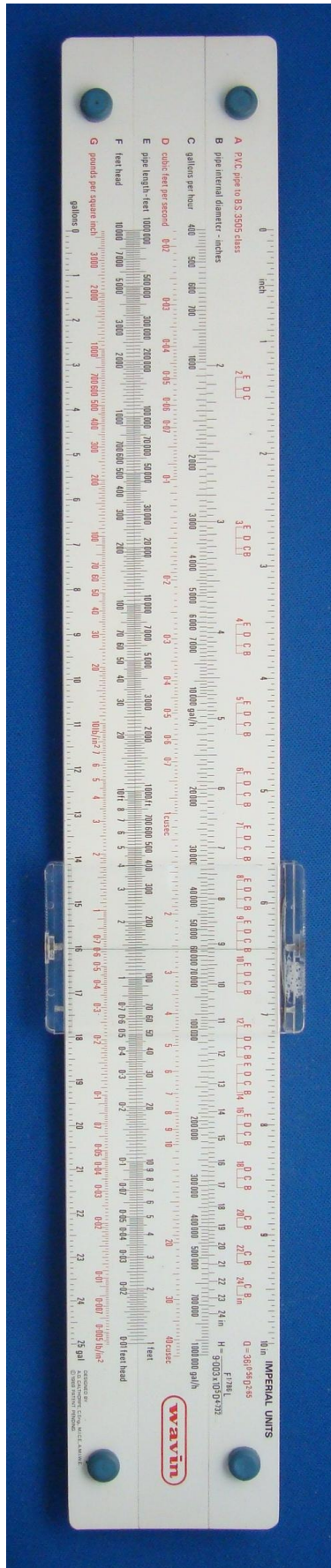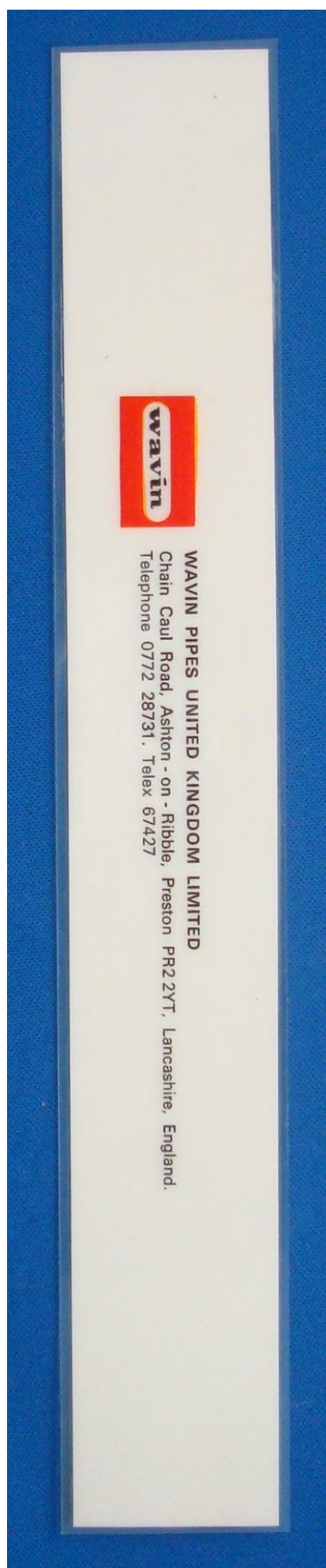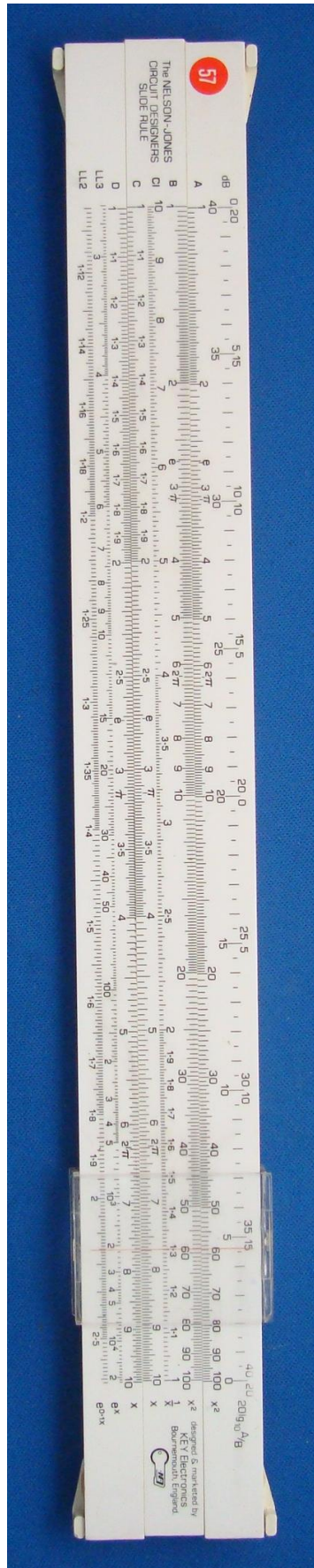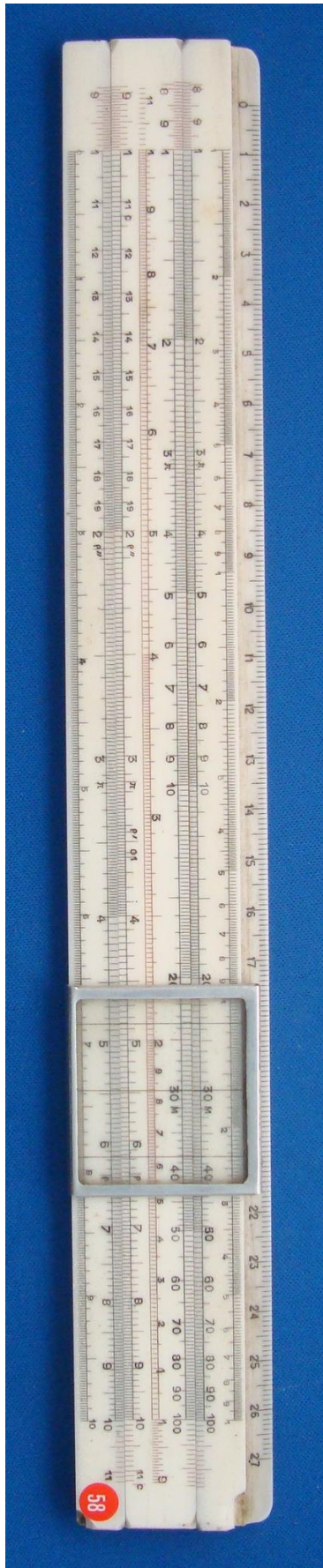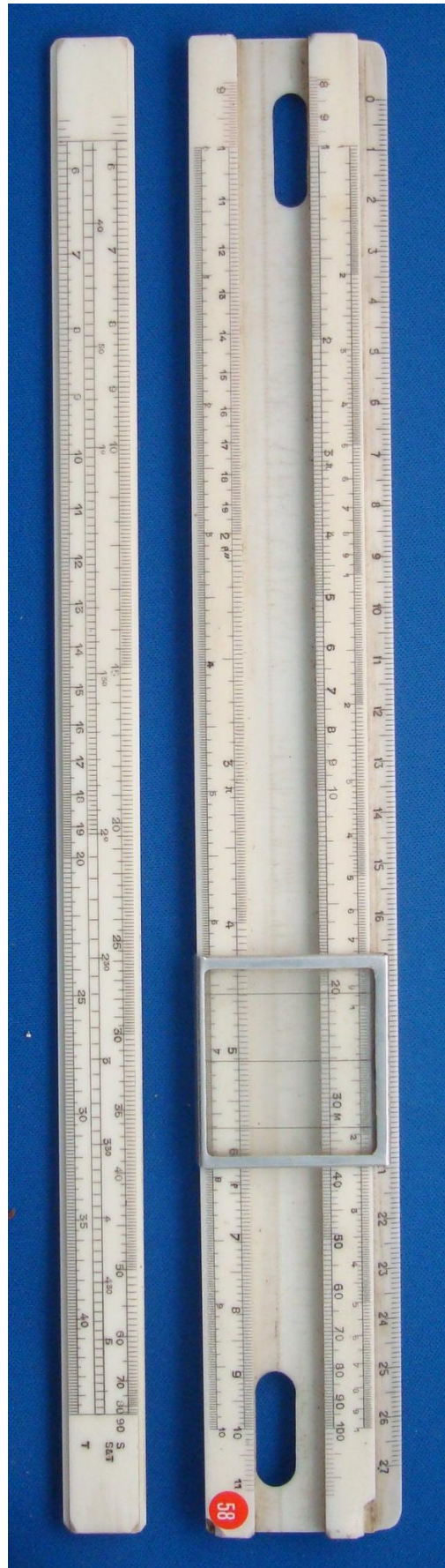
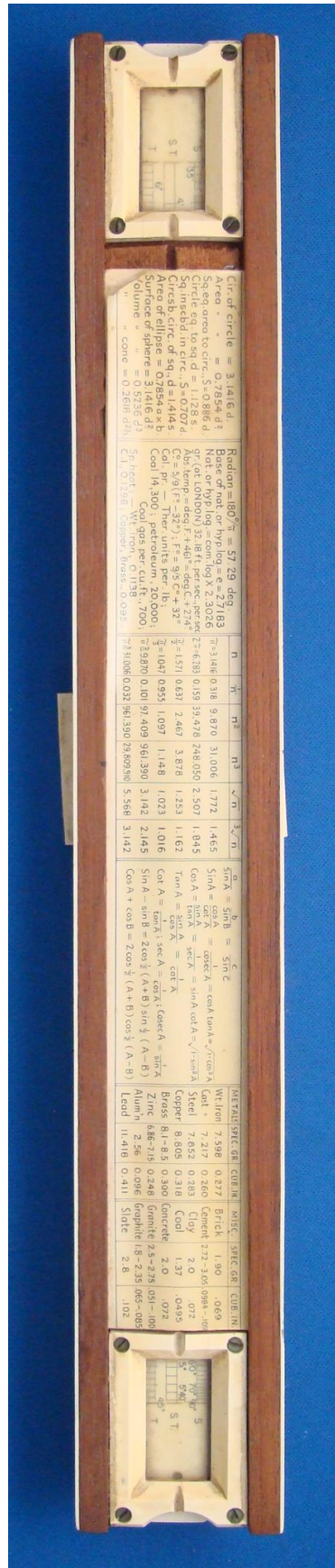*Figure 32: TCD-SCSS-U.20121208.044-fig32*

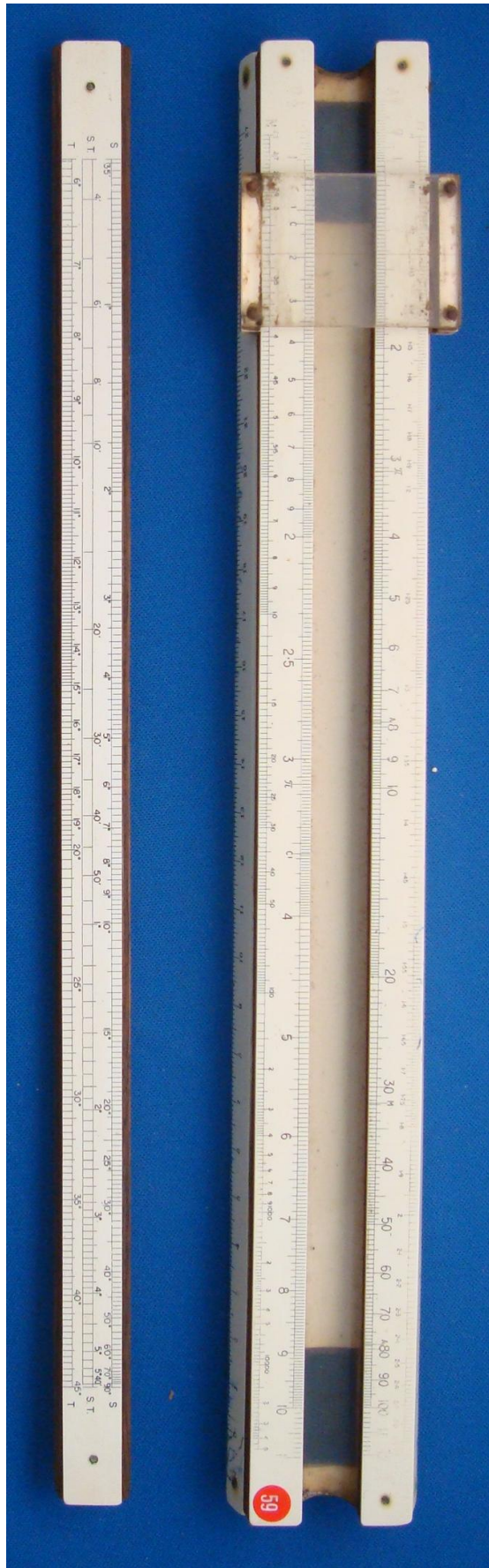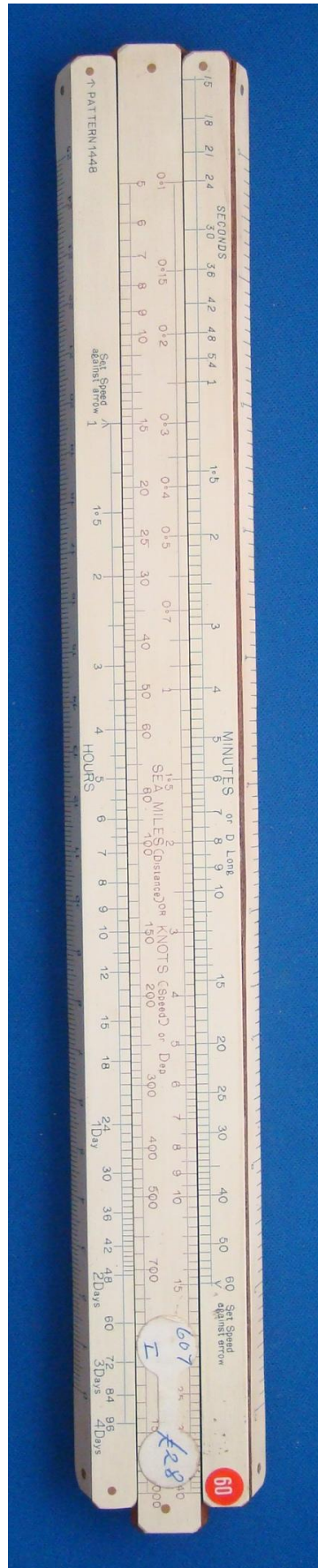*Figure 33: TCD-SCSS-U.20121208.044-fig33*

Cir. of circle = 3.1416 d.
Area " = 0.7854 d²
Sq.eq.area to circ. S=0.886 d
Circle eq. to sq. d = 1.1285
Sq.inscbd.in circ. S=0.707 d
Circsb.circ of sq. d =1.414s
Area of ellipse = 0.7854 a×b
Surface of sphere = 3.1416 d²
Volume " " = 0.5236 d³
" cone " = 0.2618 d²h

Radian =180°/π = 57.29 deg.
Base of nat. or hyp.log = e = 2.71.83
Nat. or hyp.log = com.'log × 2.3026
gr.(at LONDON) 32.18 ft.per.sec.per sec.
Abs.temp.=deg.F.+460°=deg.C.+274°
Cº = 5/9(F−32°); F°= 9/5 C°+ 32°
Cal. pr. Ther.units per lb.
Circsb.circ. 14,300 ; petroleum, 20,000.
Coal gas per cu.ft., 700.

n	$\frac{n}{\pi}$	n²	n³	$\sqrt{n}$	$\sqrt[3]{n}$
π=3.1416	0.318	9.870	31.006	1.772	1.465
2 = 6.283	0.159	39.478	248.050	2.507	1.845
3/2 =4.712	0.637	2.467	3.878	1.253	1.162
π/2 =1.571	0.955	1.097	1.148	1.023	1.016
1/π = 1.047				3.142	2.145
1/π =0.3183	0.032	96.1390	29.809.910	5.568	3.142

	$a = \frac{b}{\sin B} = \frac{c}{\sin C}$
$\sin A$	
$\sin A = \frac{\cos A}{\cot A}$	
$\cos A = \frac{\sin A}{\tan A}$	
$\tan A = \frac{\sin A}{\cos A} = \frac{1}{\cot A}$	
$\cot A = \tan A^{-1}$	

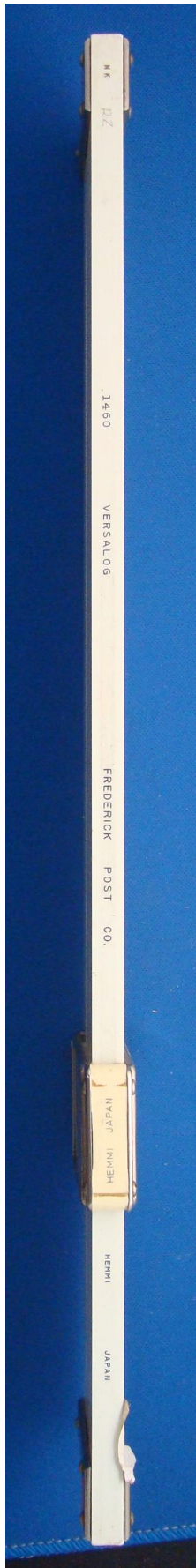| METALS	SPEC.GR	CUB.IN.	MISC.	SPEC.GR	CUB.IN.
Wt.Iron	7.598	0.277	Brick	1.90	0.69
Cast "	7.217	0.260	Cement	2.72−3.05	.094−.10
Steel	7.852	0.283	Clay	2.0	.072
Copper	8.805	0.318	Coal	1.37	.0495
Brass	8.1−8.5	0.300	Concrete	2.0	.072
Zinc	6.86−7.15	0.248	Granite	2.5−2.75	.051−.100
Alum.n	2.56	0.096	Graphite	1.8−2.35	.065−.085
Lead	11.416	0.411	Slate	2.8	.102

Figure 34: TCD-SCSS-U.20121208.044-fig34

Figure 35: TCD-SCSS-U.20121208.044-fig35

Figure 36: TCD-SCSS-U.20121208.044-fig36

SET(MID)LAT
AGAINST ARROW

80°
LATITUDE

To convert Departure into D.Long. or vice versa.—set Mid.Lat. against arrow on back of rule. Then against known Departure on upper scale of slide read D.Long. on upper scale of rule, or vice versa.

SPEED—TIME—DISTANCE SLIDE RULE. Instructions for use :—

(1) When the speed is known; to find the time required to run a given distance or the distance run in a given time: Set speed in knots on upper miles scale against 60 minutes (this also sets speed on lower miles scale against 1 hour) and read off time opposite distance or vice versa.

(2) To find the speed made good from the time taken to run a known distance: Set distance (miles) against time and read off speed in knots on miles scales opposite the arrows.

Upper scales are for periods between 15 seconds and one hour at any speed up to 40 knots. Lower scales are for periods between 1 hour and 4 days. (For speeds below 5 knots use upper scale to set speed on rule and read off as required from lower scales.) Times are shown in Black. Speeds and/or Distances in Red.

Figure 37: TCD-SCSS-U.20121208.044-fig37

Figure 38: TCD-SCSS-U.20121208.044-fig38

Figure 39: TCD-SCSS-U.20121208.044-fig39

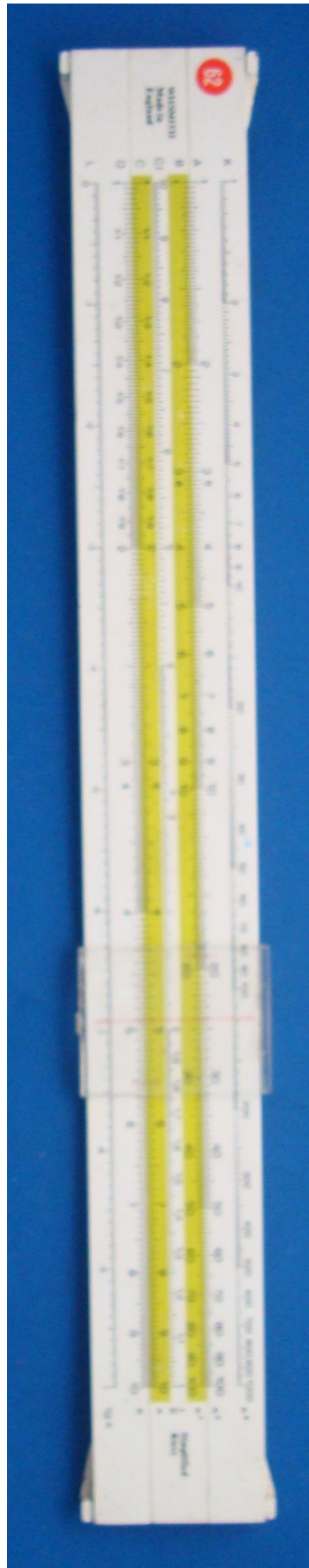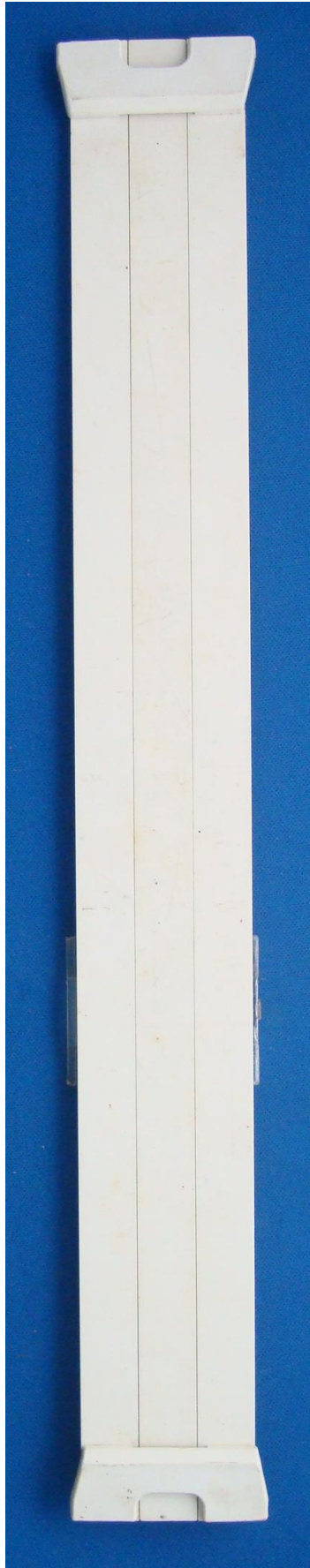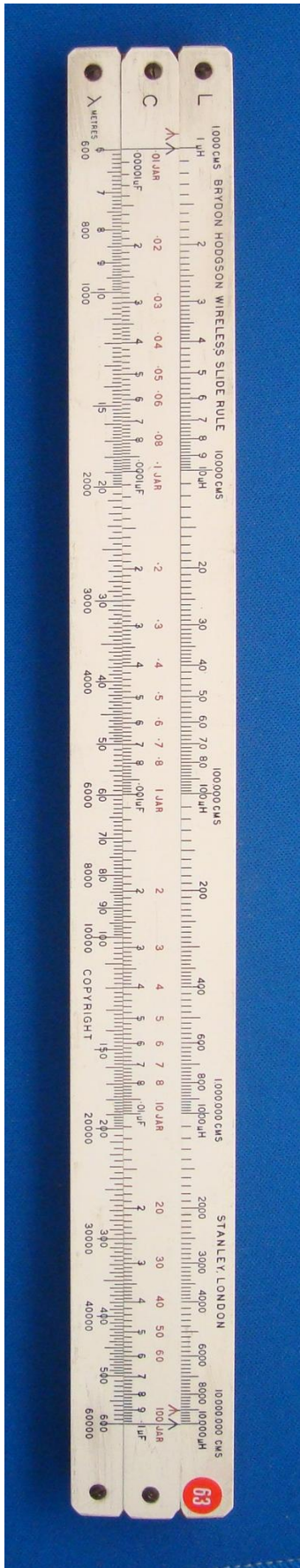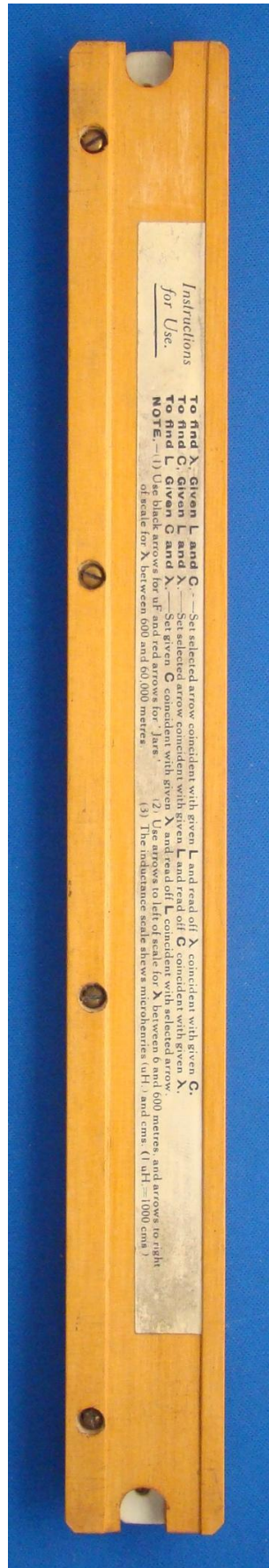*Figure 40: TCD-SCSS-U.20121208.044-fig40*

Figure 41: TCD-SCSS-U.20121208.044-fig41

Figure 42: TCD-SCSS-U.20121208.044-fig42

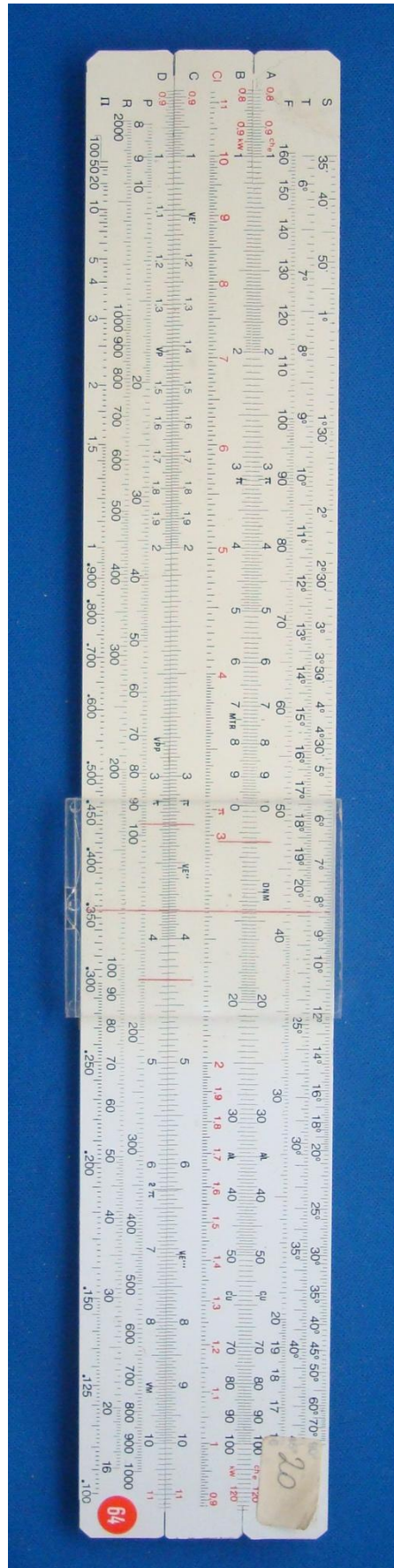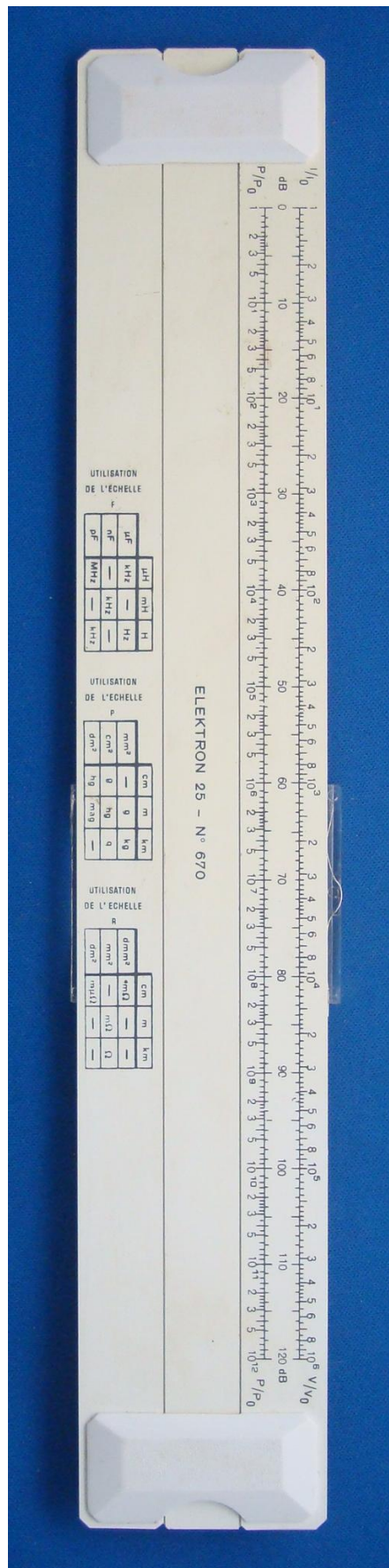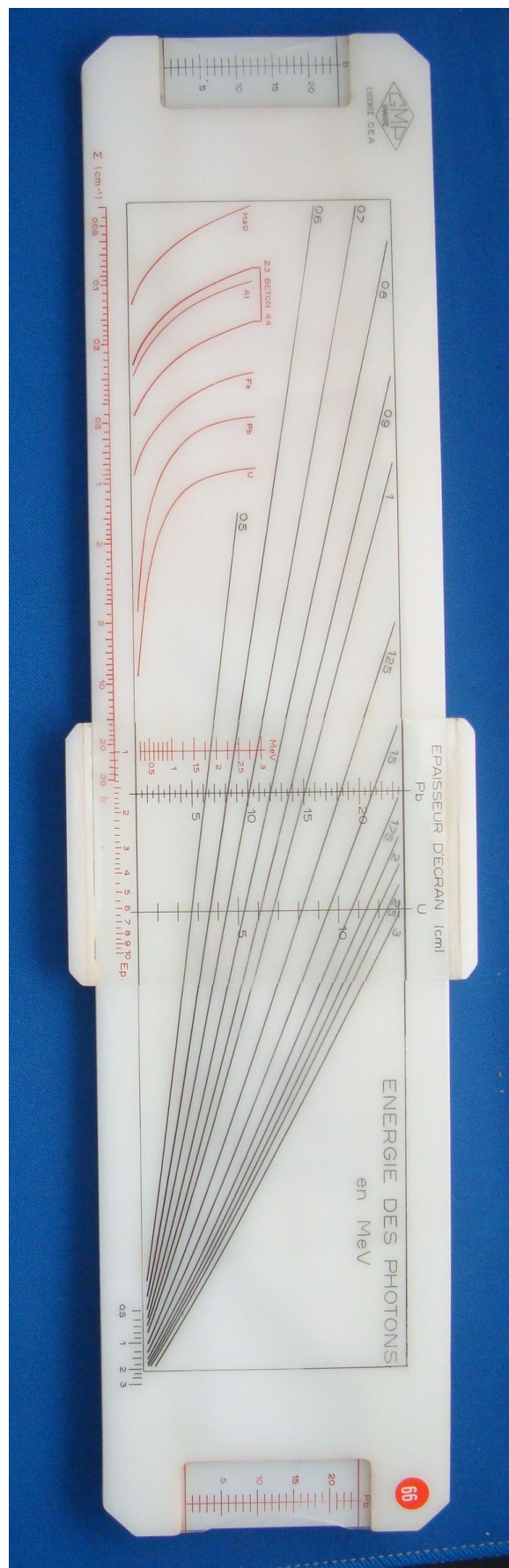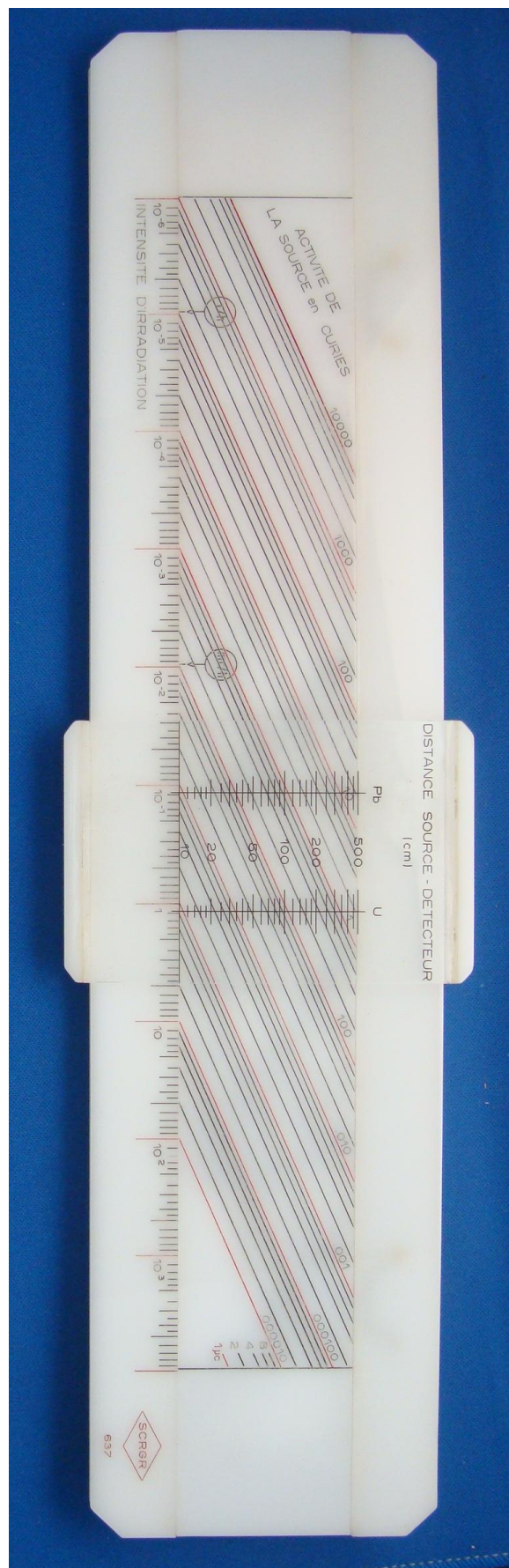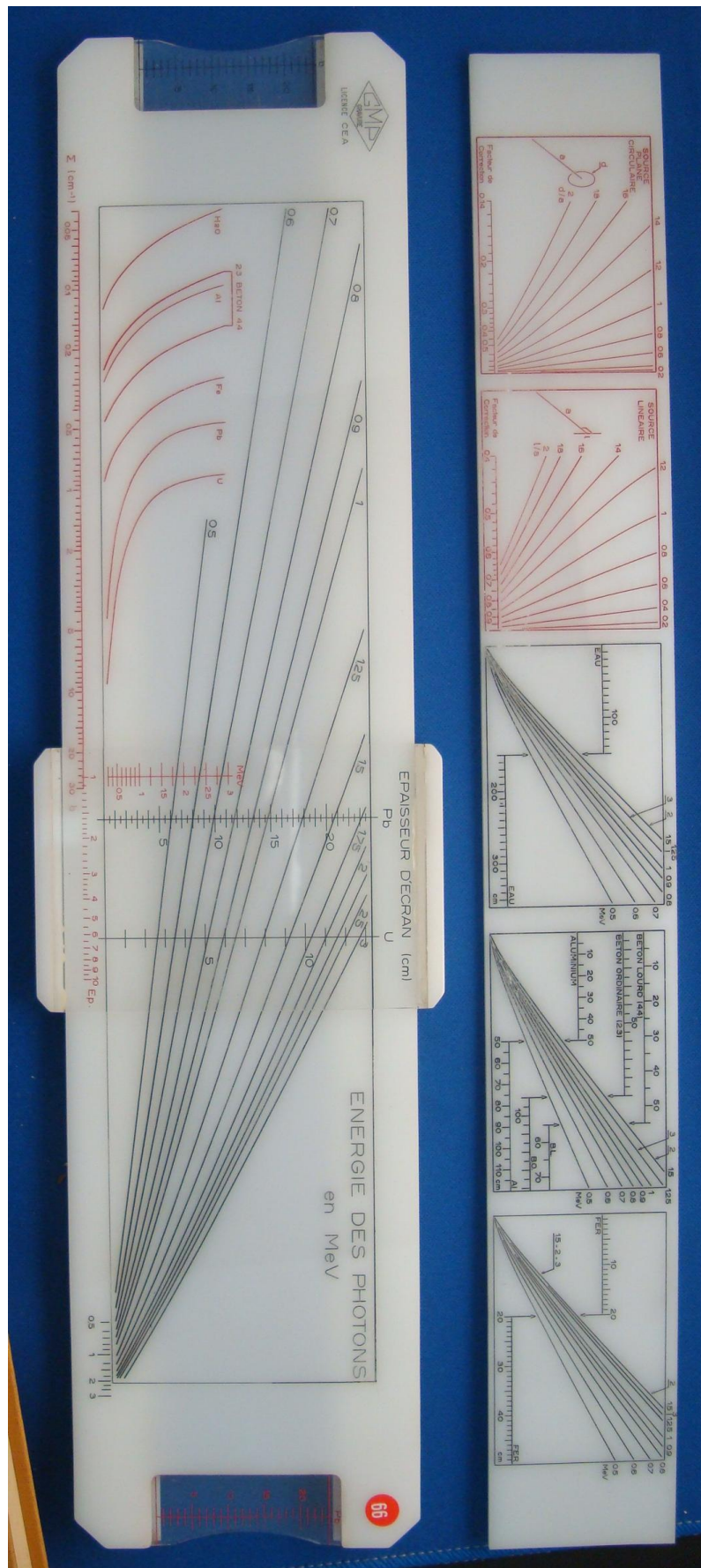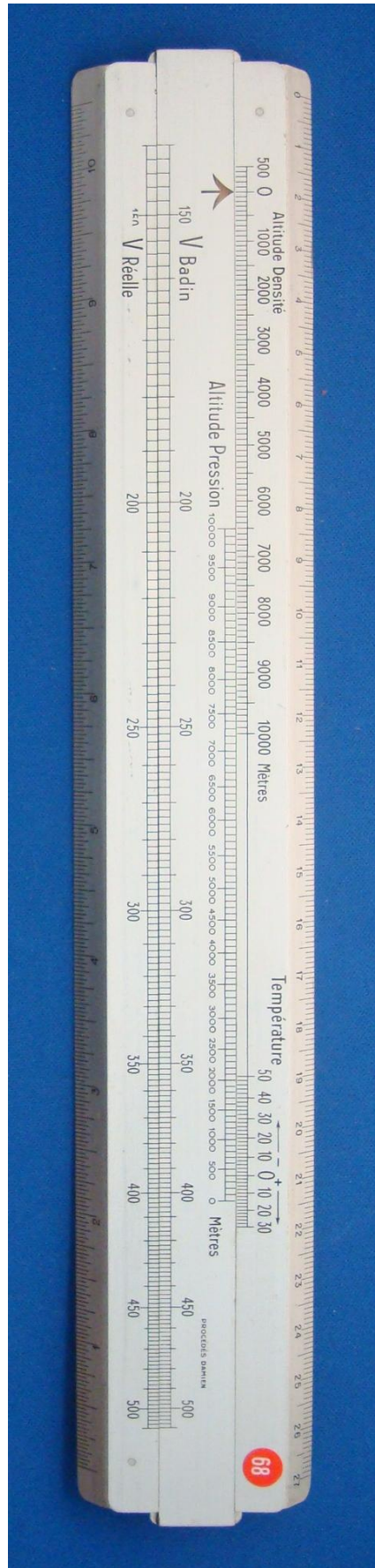*Figure 43: TCD-SCSS-U.20121208.044-fig43*

To find λ. Given L and C.—Set selected arrow coincident with given L and read off λ coincident with given C.

To find C. Given L and λ.—Set selected arrow coincident with given L and read off C coincident with given λ.

To find L. Given C and λ.—Set given C coincident with given λ, and read off L coincident with selected arrow.

NOTE.—(1) Use black arrows for µF and red arrows for "Jars."

(2) Use arrows to left of scale for λ between 6 and 600 metres, and arrows to right of scale for λ between 600 and 60,000 metres.

(3) The inductance scale shews microhenries (uH.) and cms. (1 uH.=1000 cms.)

Instructions for Use.

Figure 44: TCD-SCSS-U.20121208.044-fig44

Figure 45: TCD-SCSS-U.20121208.044-fig45

Figure 46: TCD-SCSS-U.20121208.044-fig46

Figure 47: TCD-SCSS-U.20121208.044-fig47

Figure 48: TCD-SCSS-U.20121208.044-fig48

Figure 49: TCD-SCSS-U.20121208.044-fig49

Figure 50: TCD-SCSS-U.20121208.044-fig50
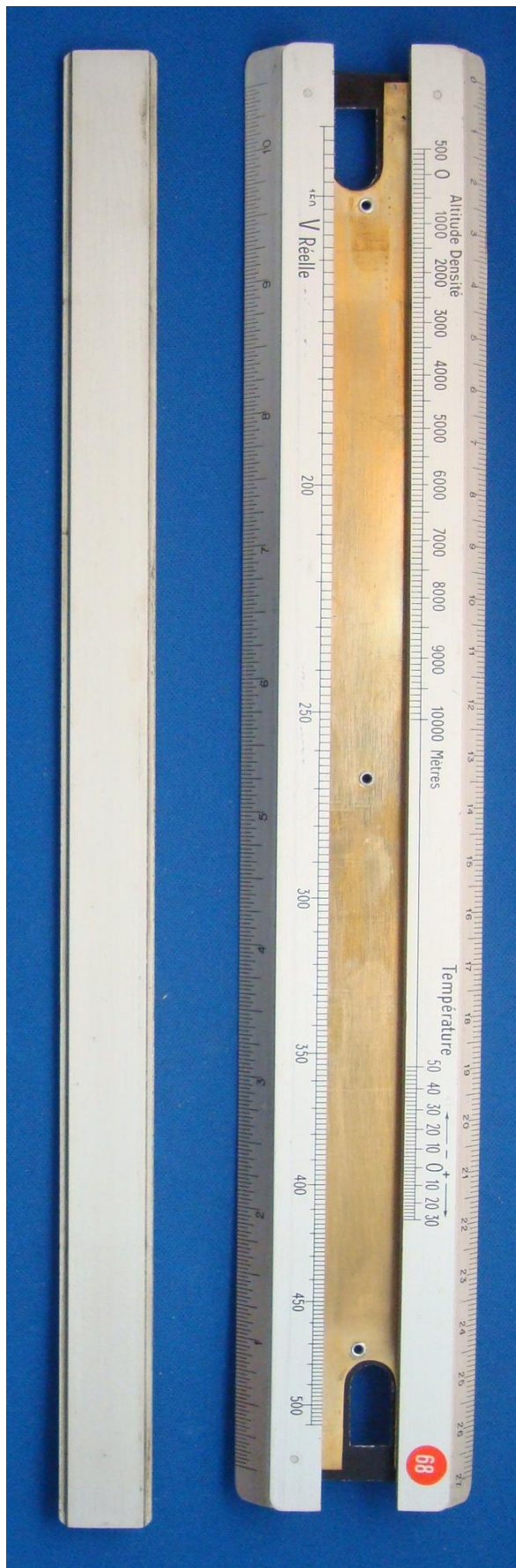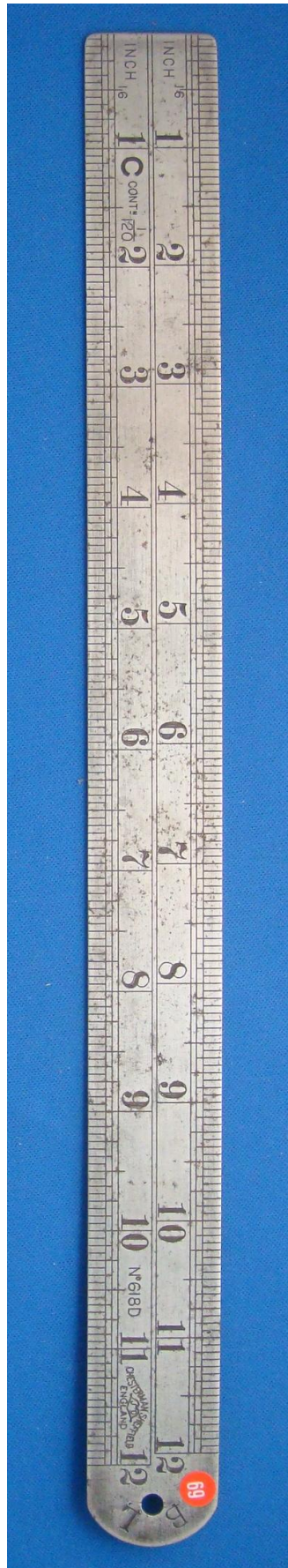
Figure 51: TCD-SCSS-U.20121208.044-fig51

Figure 52: TCD-SCSS-U.20121208.044-fig52
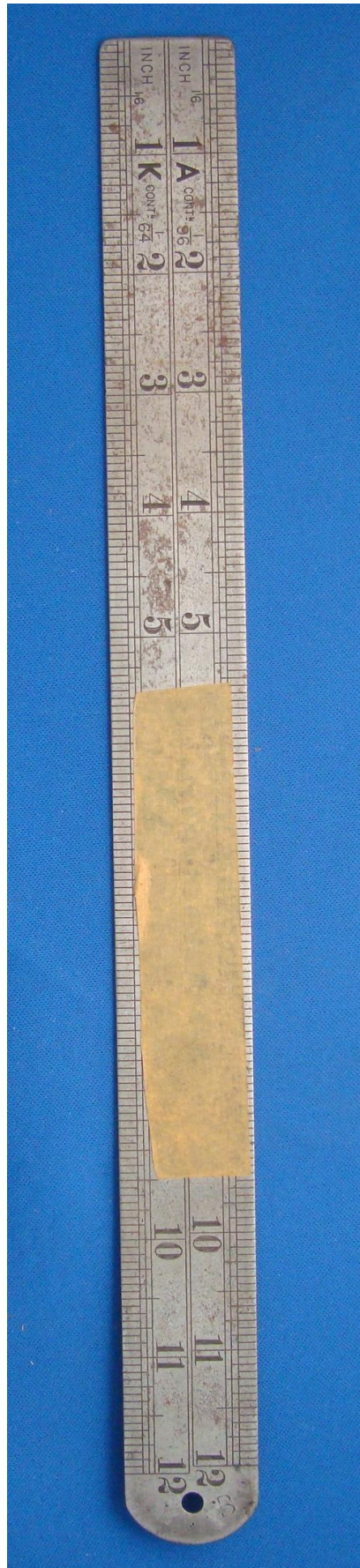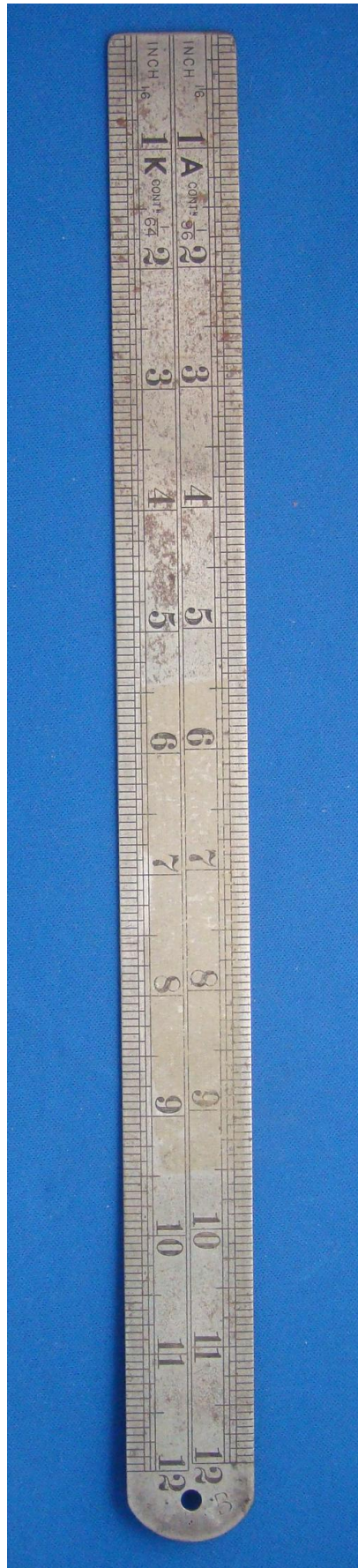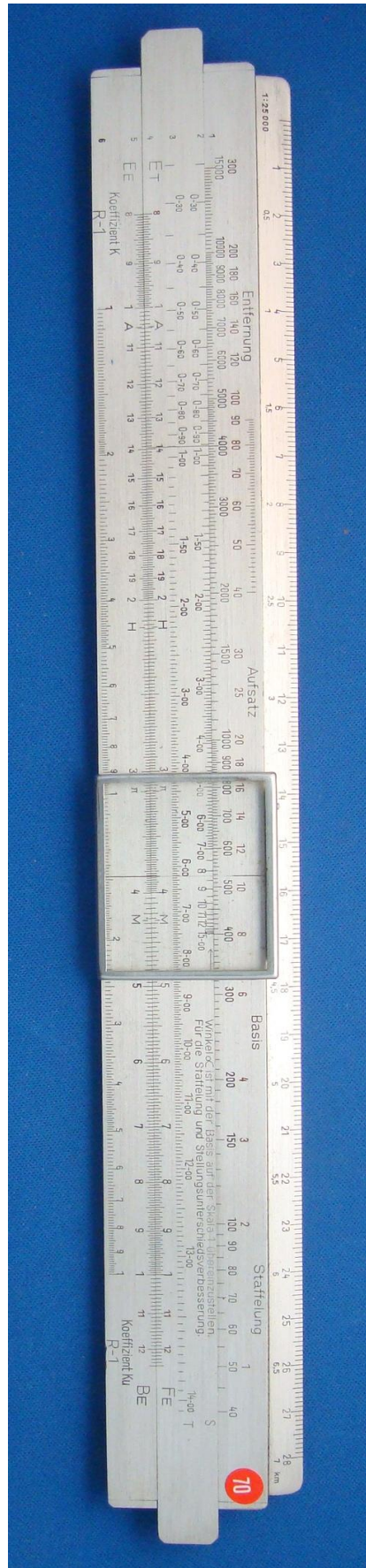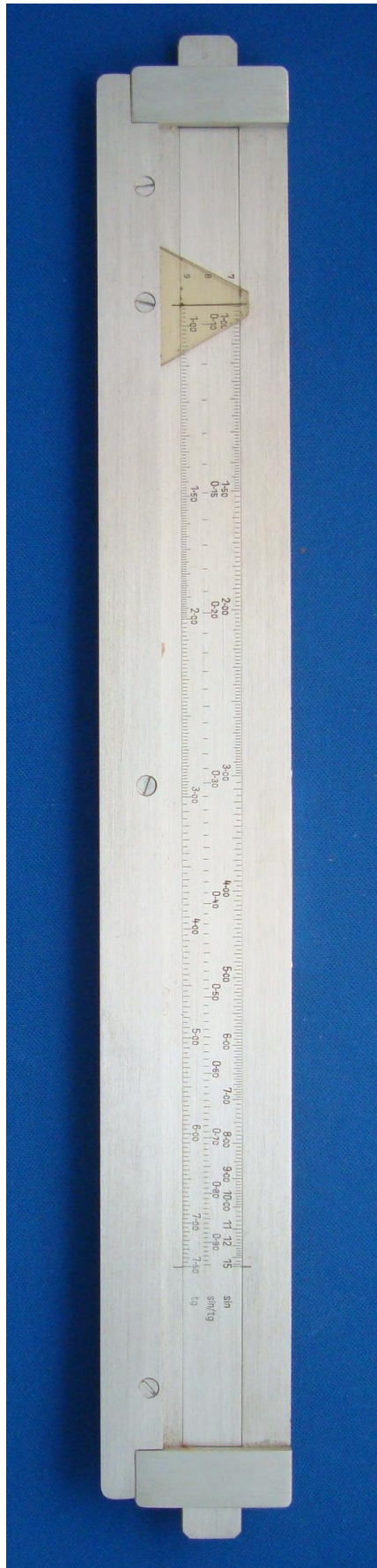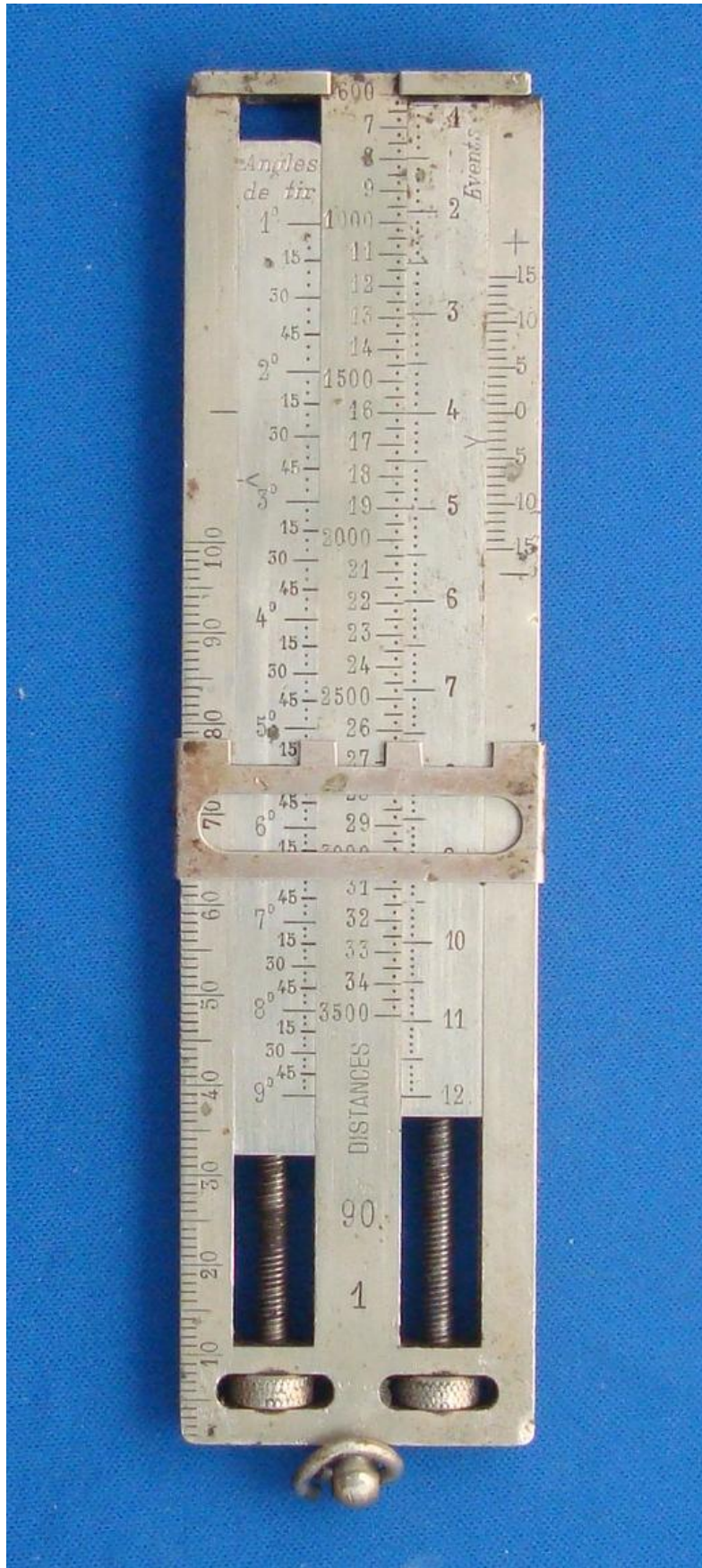
Figure 53: TCD-SCSS-U.20121208.044-fig53

Figure 54: TCD-SCSS-U.20121208.044-fig54

Figure 55: TCD-SCSS-U.20121208.044-fig55

Figure 56: TCD-SCSS-U.20121208.044-fig56

Figure 57: TCD-SCSS-U.20121208.044-fig57

Figure 58: TCD-SCSS-U.20121208.044-fig58

Figure 59: TCD-SCSS-U.20121208.044-fig59
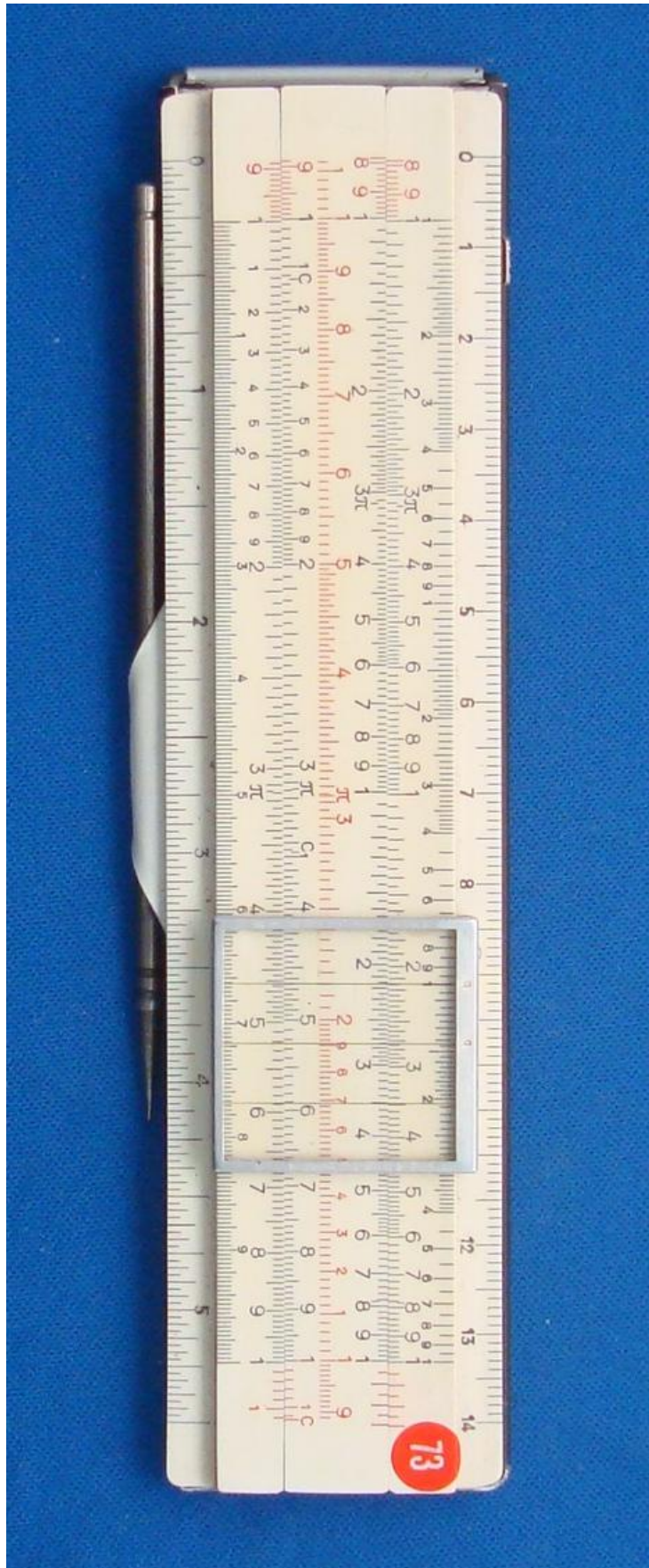
Figure 60: TCD-SCSS-U.20121208.044-fig60

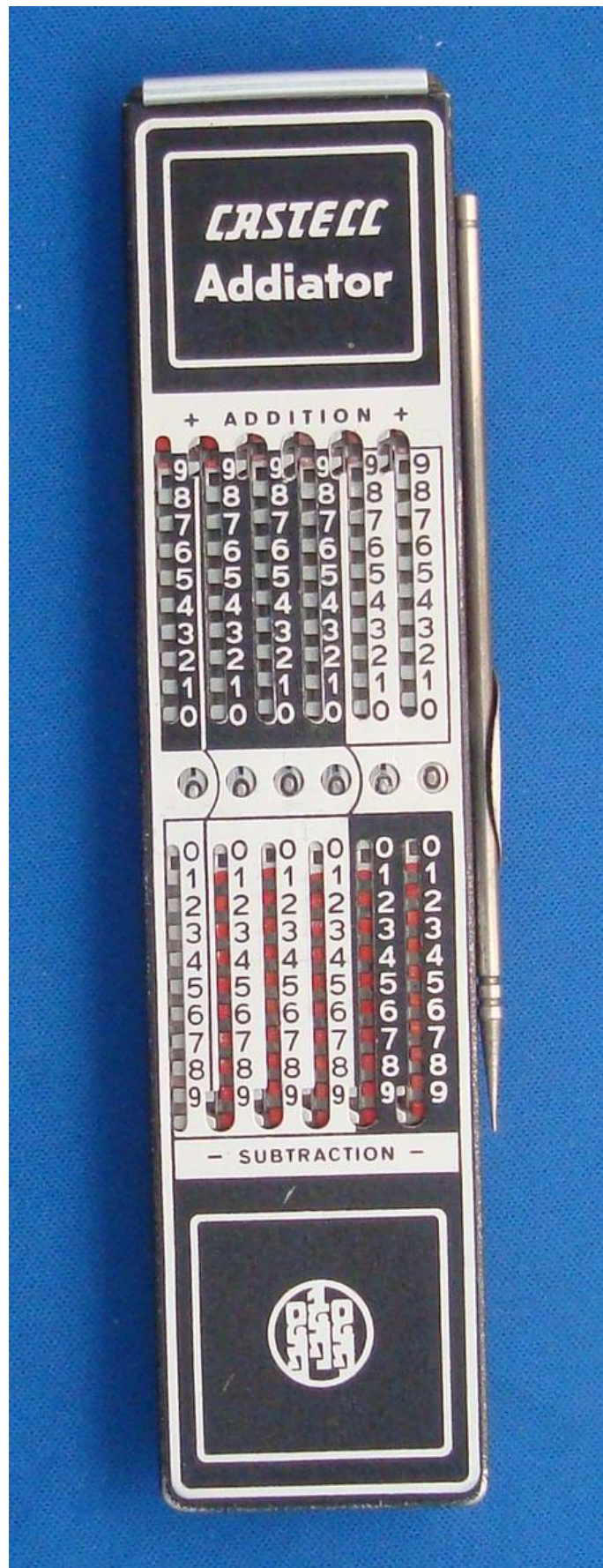*Figure 61: TCD-SCSS-U.20121208.044-fig61*

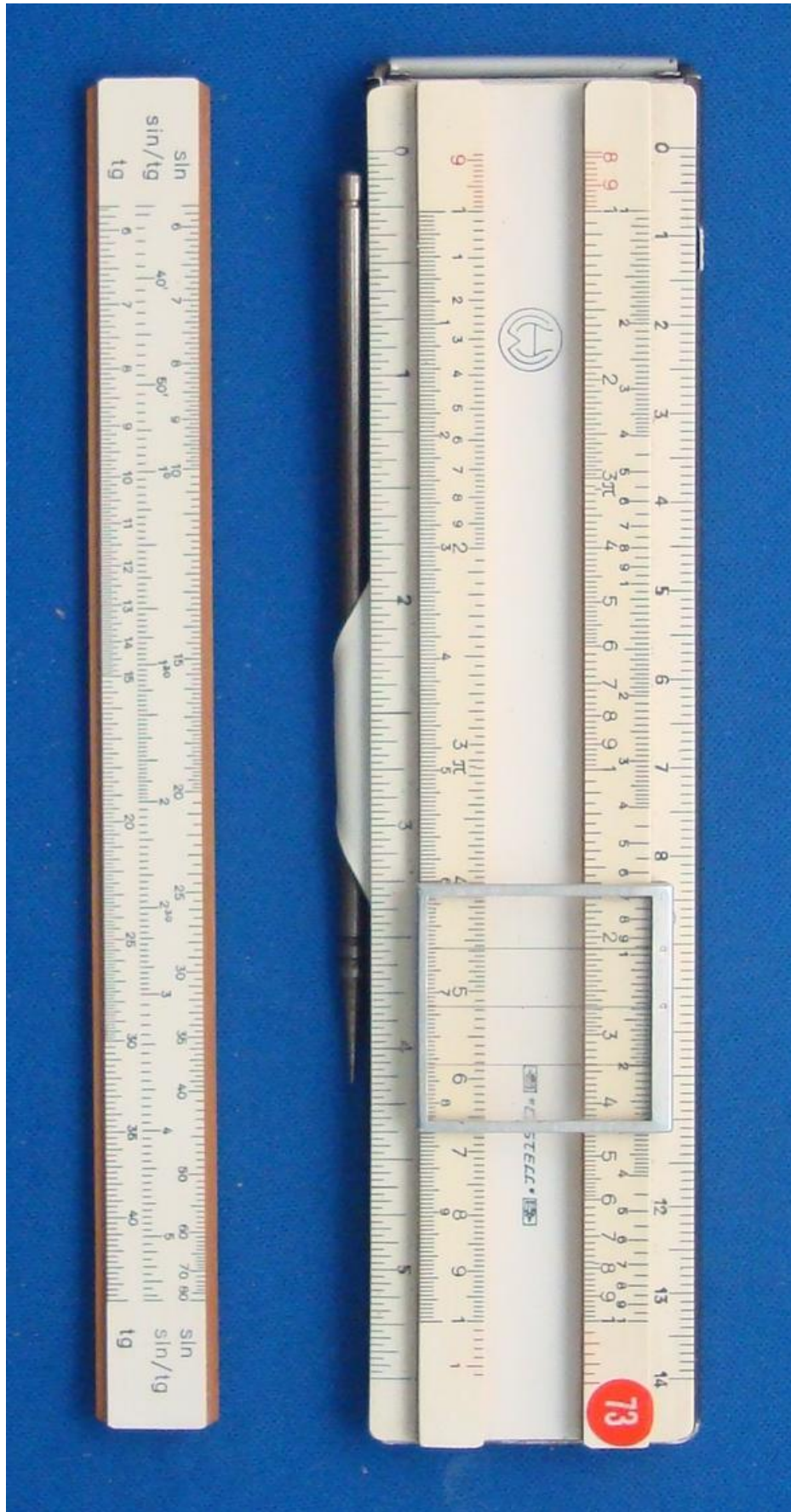*Figure 62: TCD-SCSS-U.20121208.044-fig62*

Figure 63: TCD-SCSS-U.20121208.044-fig63
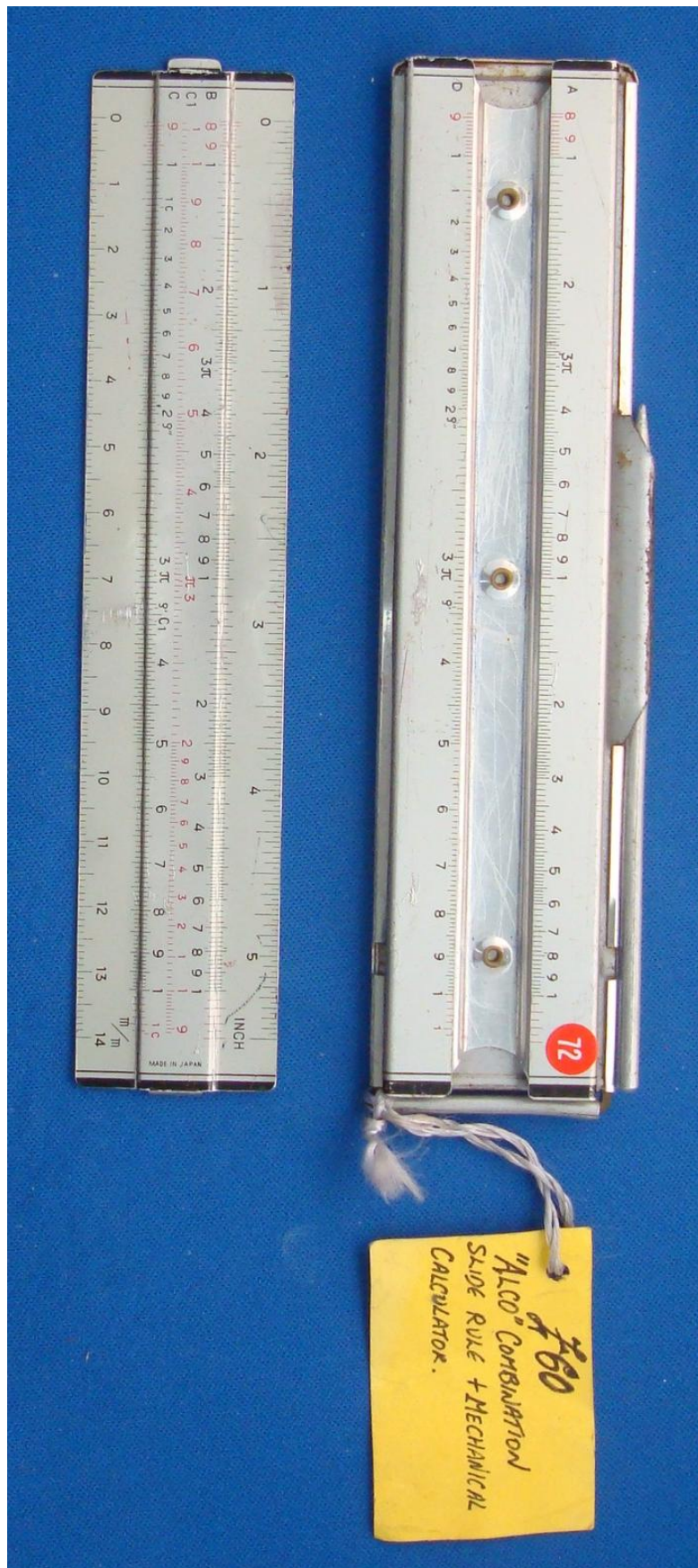
Figure 64: TCD-SCSS-U.20121208.044-fig64

Figure 65: TCD-SCSS-U.20121208.044-fig65

Figure 66: TCD-SCSS-U.20121208.044-fig66