



J. H. HALDEN

& CO.

**Drawing Instruments.
Surveying Instruments.
Drawing Office Materials.
Drawing Office Furniture.
Engineers' Photo Papers.
Photo Copying Apparatus.**

CABLE CODE, A.B.C. 5th EDITION.



J. HALDEN & Co., Ltd.,

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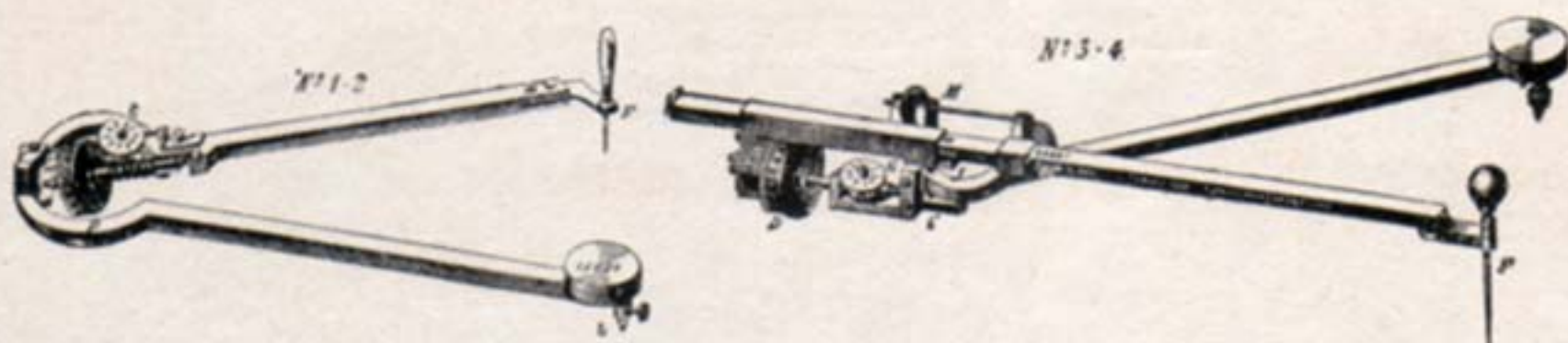
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Telegrams : "FERRO, GLASGOW."
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Telephone : 3773.

Planimeters.

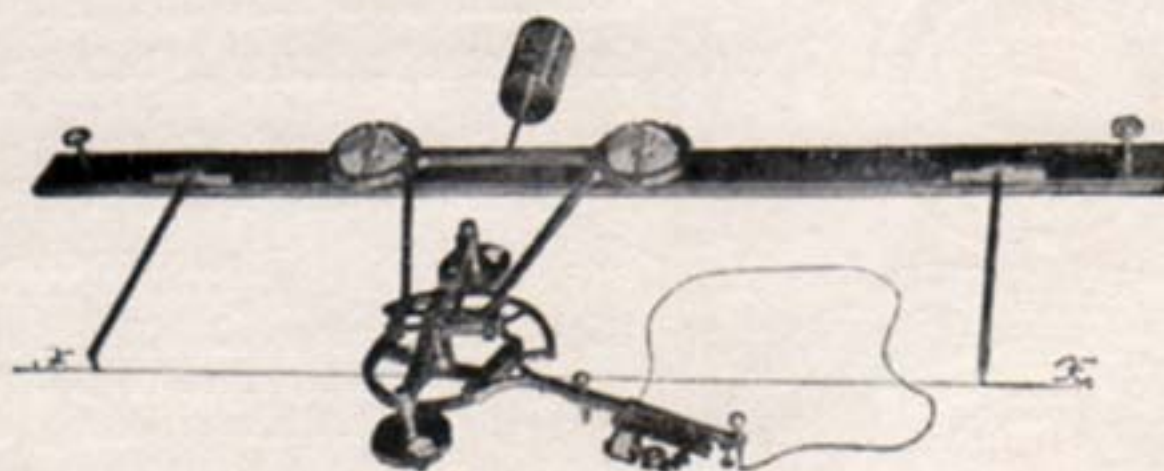


1 and 2

3 and 4

			£	s.	d.
1514	No. 1	Amsler Planimeter, for computing areas in square inches; range, circle of 18in. diameter, fixed index; brass	2	2	0
1515	" 2	Planimeter ditto German silver	2	5	0
1516	" 3	Planimeter, arranged for computing areas in either of several units (English and French) or scales; range, circle of 24in. diameter, brass	2	10	6
1517	" 4	Planimeter ditto German silver	2	15	0
1518	" 5	Planimeter, arranged for very large or very small areas, range, circle of 38in. diameter, German silver	6	10	0
1519	" 6	Planimeter, same as No. 4 but with special arrangement for finding rapidly the mean height of indicator diagrams; range, circle of 25in. diameter, German silver	3	0	0
1520	" 7	Planimeter, for large areas; similar to No. 4, but larger range, circle of 42in. diameter	6	5	0
1521	" 8	Planimeter, with roller working on revolving disc; range, area enclosed between two concentric circles of 31in. and 13in. respectively; brass	9	0	0
1522	" 9	Planimeter, with roller working on revolving disc; range, lengthwise, 17in.; crosswise, 9in.; brass	9	9	0

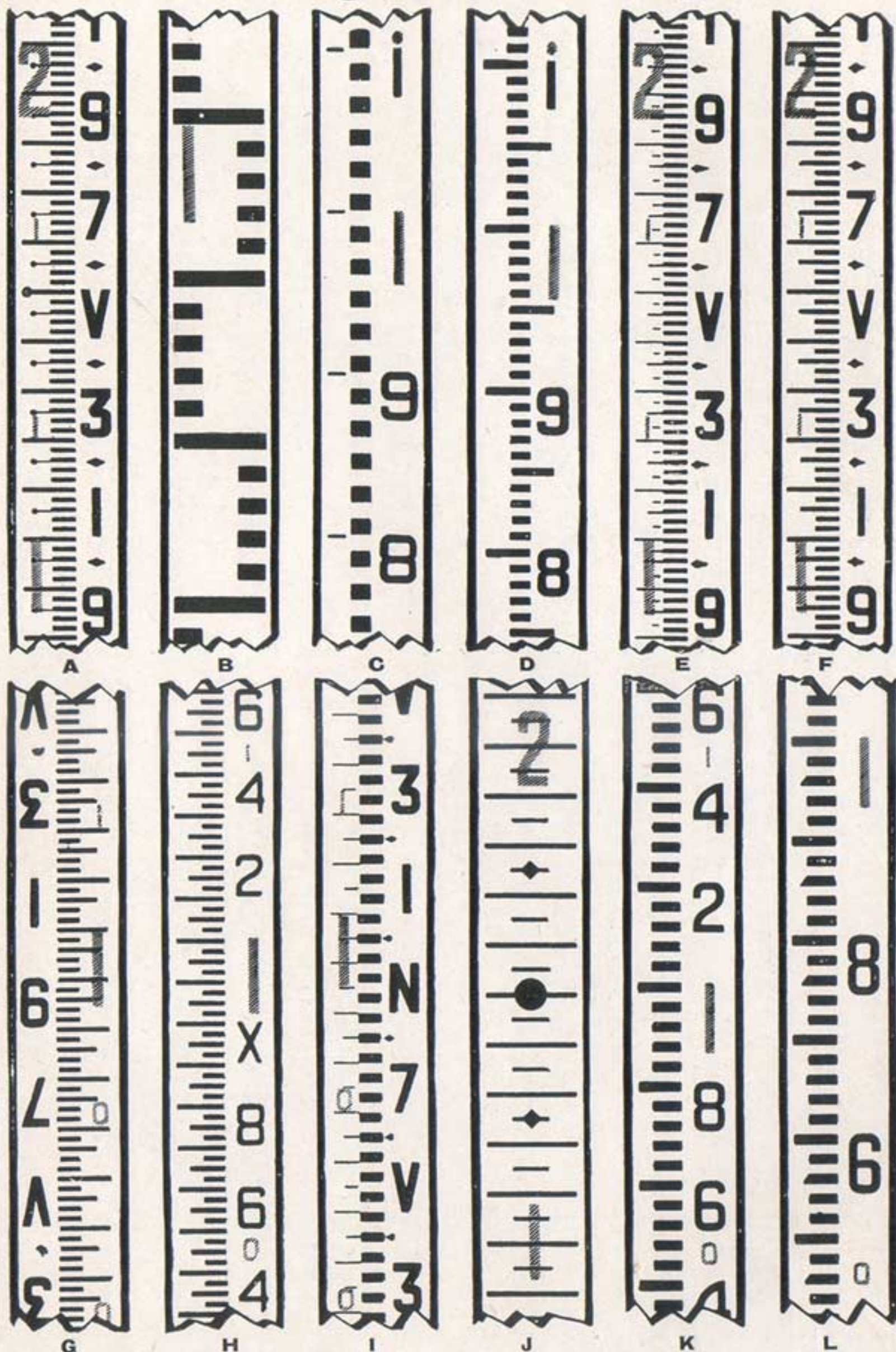
Integrators.



			LONGITUDINAL		TRANSVERSE				
			RANGE.		RANGE.				
1523	No. 1	Amsler Integrator; brass	50ins.	..	13ins.	..	15	12	6
1524	" 1	" " electrum	50	"	13	"	18	10	0
1525	" 2	" " brass	67	"	26	"	24	0	0
1526	" 2	" " electrum	67	"	26	"	30	0	0
1527	" 3	" " brass	26	"	15	"	10	5	0
1528	" 3	" " electrum	26	"	15	"	12	5	0
1529	" 4	" " brass	67	"	24	"	35	0	0
1530	" 4	" " electrum	67	"	24	"	44	0	0

Illustrated List and Special Quotations on request.

Levelling Staff Readings.



- A Feet, $\frac{1}{10}$ th, $\frac{1}{20}$ th, and $\frac{1}{100}$ th.
 B Meters, Decimetres, and Centimetres, Extended Divisions.
 C Metres, Decimetres, and Centimetres.
 D Metres, Decimetres, and $\frac{1}{2}$ Centimetres.
 E Feet, $\frac{1}{10}$ th, $\frac{1}{20}$ th, and $\frac{1}{100}$ th.
 F Sopwith Pattern, Feet, $\frac{1}{10}$ th, $\frac{1}{20}$ th, and $\frac{1}{100}$ th.
 G Sopwith, Inverted, Feet, $\frac{1}{10}$ th, $\frac{1}{20}$ th, and $\frac{1}{100}$ th.

- H Feet, Inches, and $\frac{1}{8}$ ths.
 I Feet, $\frac{1}{10}$ th, $\frac{1}{20}$ th, and $\frac{1}{50}$ th, N for 9.
 J Feet, $\frac{1}{10}$ th and $\frac{1}{20}$ th (Scotch Reading).
 K Feet, $\frac{1}{20}$ th and $\frac{1}{50}$ th, Stadia Reading 1 in 100.
 L 2 Feet divided into $\frac{1}{100}$ th and figured as 1 foot, Stadia Reading 1 in 50. For Folding Staves only.

Any pattern supplied with Inverted Figures.

Levelling Staves.

Telescopic pattern.

Best Quality.

The woodwork is of well-seasoned mahogany, tongued, glued, and screwed together and highly polished.

Special care is given to the fit of the slides so that when drawn out to the full extent there is no excessive play or shakiness.

The brass work is solid and highly lacquered, the spring catches being of special hard-rolled brass.

F Reading supplied unless ordered otherwise.

PAINTED READINGS.

			£	s.	d.
1760	6ft. Three-length Staff	..	1	12	0
1761	8ft. " "	..	1	15	0
1762	10ft. " "	..	1	18	6
1763	12ft. " "	..	2	2	0
1764	14ft. " "	..	2	5	0
1765	16ft. " "	..	2	18	0
1766	18ft. " "	..	3	10	0

METRICAL C READING.

1767	2 Metre Three-length Staff	..	1	15	0
1768	3 " "	..	1	18	6
1769	4.25 " "	..	2	5	0
1770	5 " "	..	2	18	0

SECOND QUALITY LEVELLING STAVES.

These are similar to the best quality, but lighter in construction.

1771	14ft.	..	1	12	0
1772	16ft.	..	2	5	0
1773	18ft.	..	2	10	0

Folding Levelling Staves.

Pine stained and polished mahogany colour.

			£	s.	d.
1774	10ft., Two-fold, Painted Face,				
	2in. wide	..	1	2	6
1775	12ft. Ditto	2½in. wide	1	10	0
1776	14ft. Ditto	ditto	1	15	0
1777	16ft. Ditto	ditto	2	2	0

METRICAL READINGS.

1778	3 Metres Two-fold, Painted Face				
		51.0 m/m wide	1	2	6
1779	4.25 Ditto	63.0 m/m wide	1	15	0
1780	5 Ditto	63.0 m/m wide	2	2	0



Telescopic Staff,
F Reading.



Folding Staff.

The "Rowsley" Portable Telescopic Levelling Staff.

(Patent applied for.)

This Staff is of entirely new design and is particularly suitable for use in confined situations, such as mines and sewers.

It is constructed on a sliding principle and is automatically locked at any height.

The reading is on a flexible waterproof tape which is operated by a spring, and is entirely protected when not in use.

It gives a continuous reading at all heights and is always taut. The tape passes under brass flanges in the middle sliding section, and so is always held steady in draughty situations.

The Staff is made of polished ash with brass fittings.

The 6ft. Staff measures 31½ in. long when closed, and weighs less than 3lbs.

		£	s.	d.
1781	6ft. reading F	2	10	0
1782	8ft. "	2	17	6
1783	Waterproof case, extra..	0	8	6

Scotch Pattern Staves.

With hollow faces and socket joints, painted white, and supplied with reading either one or two sides.

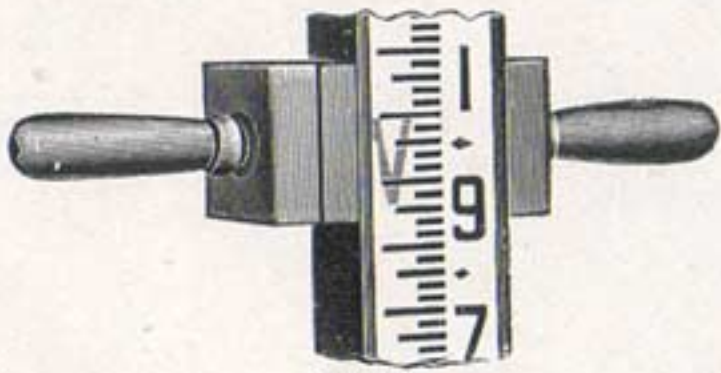
Staff when Closed		1 Side.			2 Sides.		
		£	s.	d.	£	s.	d.
1784	14ft. reading No. F or J	1	6	6	1	13	0
1785	15ft. " "	1	10	6	1	17	0
1786	16ft. " "	1	13	0	1	19	6



Scotch Pattern Staff, Reading F.



Staff when Closed



1794



Staff Partly Extended.

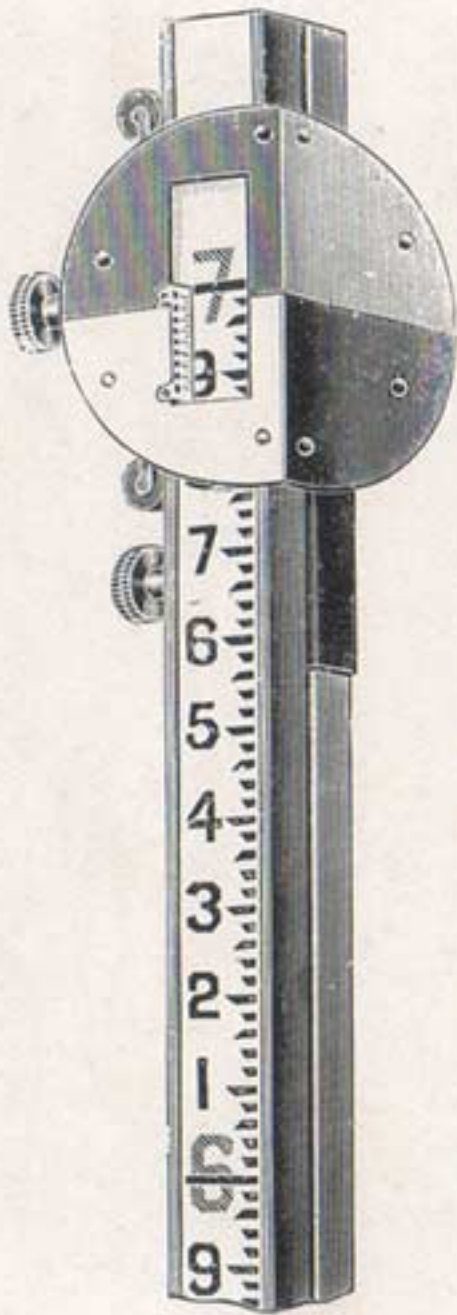


1793

Canvas Roll-up Cases for Scotch Staves.

1790	14ft.	£0	4	6
1791	15ft.	0	4	6
1792	16ft.	0	5	0
1793	Triangular Metal Plate for working on soft ground	0	2	6
1794	Staff Holder, with handles	0	6	0

American Pattern Target Levelling Staves.



1795

1795 Philadelphia Rod with rolling angle target painted red and white, and fitted screw clamp, made in two sections opening to 13 feet, closing down to 7ft. 4in., graduated 1/100ths, reading by vernier to 1/1000ths of a foot. £2 15 0

1796 As above, but graduated 1/10ths, reading by vernier to 1/200ths. £2 15 0

1797 Light pattern Philadelphia Rod with flat target, made in two sections opening to 13 feet, closing down to 7ft. 4in., graduated 1/100ths, reading by vernier to 1/1000ths of a foot £2 5 0

1798 Similar to 1797, but graduated feet, inches and eighths, reading by vernier to 1/64th of an inch £2 5 0

1799 New York Rod with flat target, painted red and white with fitted screw clamp, engine divided 1/10ths & 1/100ths, and reading by vernier to 1/1000th of a foot, opening to 12ft., closing down to 6ft. 10in. £2 2 0

1800 Architect's Rod with ordinary flat target opening to 10ft. 6in., closing down to 5ft. 6in., working side of target painted red and white, engine divided feet, inches, and eighths, and reading by vernier to 1/64th of an inch. £1 10 0

1801 As No. 1600, but divided 1/10th and 1/100th and reading by vernier to 1/1000ths of a foot £1 10 0



1797



1802

1802 Rubber Cloth Levelling Tapes, painted any standard reading.

Per foot 10d., per metre 2/9.

Level Staff Papers.

For Repapering Levelling Staves.

		Per set—£	s.	d.
1803	14ft. or 4.25 metres ..	0	2	6
1804	16ft. or 5 ..	0	3	0
1805	18ft. ..	0	3	6
1806	Paste, Varnish, and Brush, with full instructions for fixing ..	£	s.	d.
		0	1	6

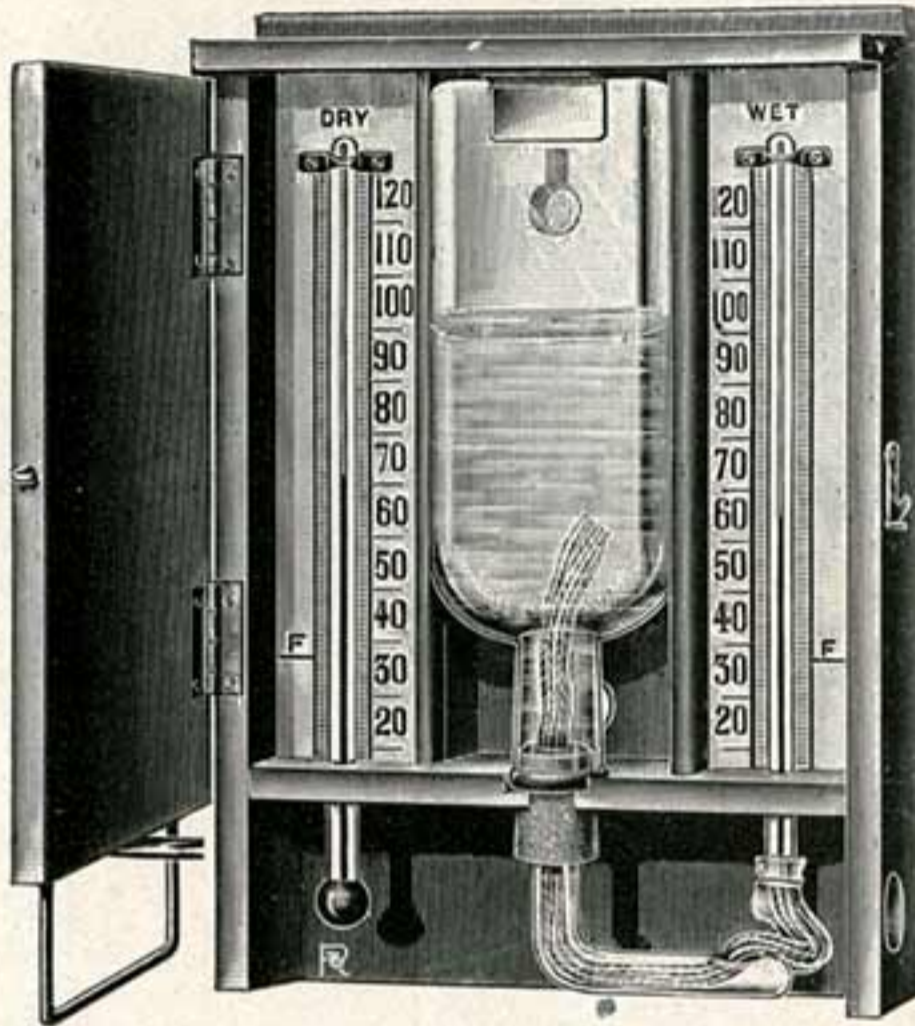
Repapering Level Staves.

Fixing Paper, Sizing, and Varnishing, 14ft. staff ..	..	0	7	6
" " " " 16ft. " ..	..	0	10	0
" " " " 18ft. " ..	..	0	12	6

STAVES REPAINTED. PRICES ACCORDING TO CONDITION.

Hygrometers.

For use in Conformity with the Coal MINES ACTS.



In order to meet the demand for a serviceable Hygrometer to comply with the new Coal Mine Regulations, we have designed and put on the market a special instrument which we consider a great improvement on the ordinary pattern wet and dry bulb Hygrometer.

The two thermometers are mounted on boxwood or metal scales graduated in plain figures, and enclosed in a strongly made case, provided with a tightly fitting door which excludes coal dust, grit, &c., and at the same time protects the instrument from damage.

A special feature of the instrument is the extra large water reservoir fixed between the two scales inside the case and connected by a special fountain feed to the bulb of the wet Thermometer. This arrangement is a great improvement over the small bottle supplied with ordinary types of Hygrometers which require to be constantly replenished with water on account of evaporation due to the conditions under which they are used.

- 1960 Price: Complete with boxwood scales, in enamelled metal or oak case £0 18 6
- 1961 Complete, with oxidized Metal Scales with White Figuring in enamelled metal case £1 1 0

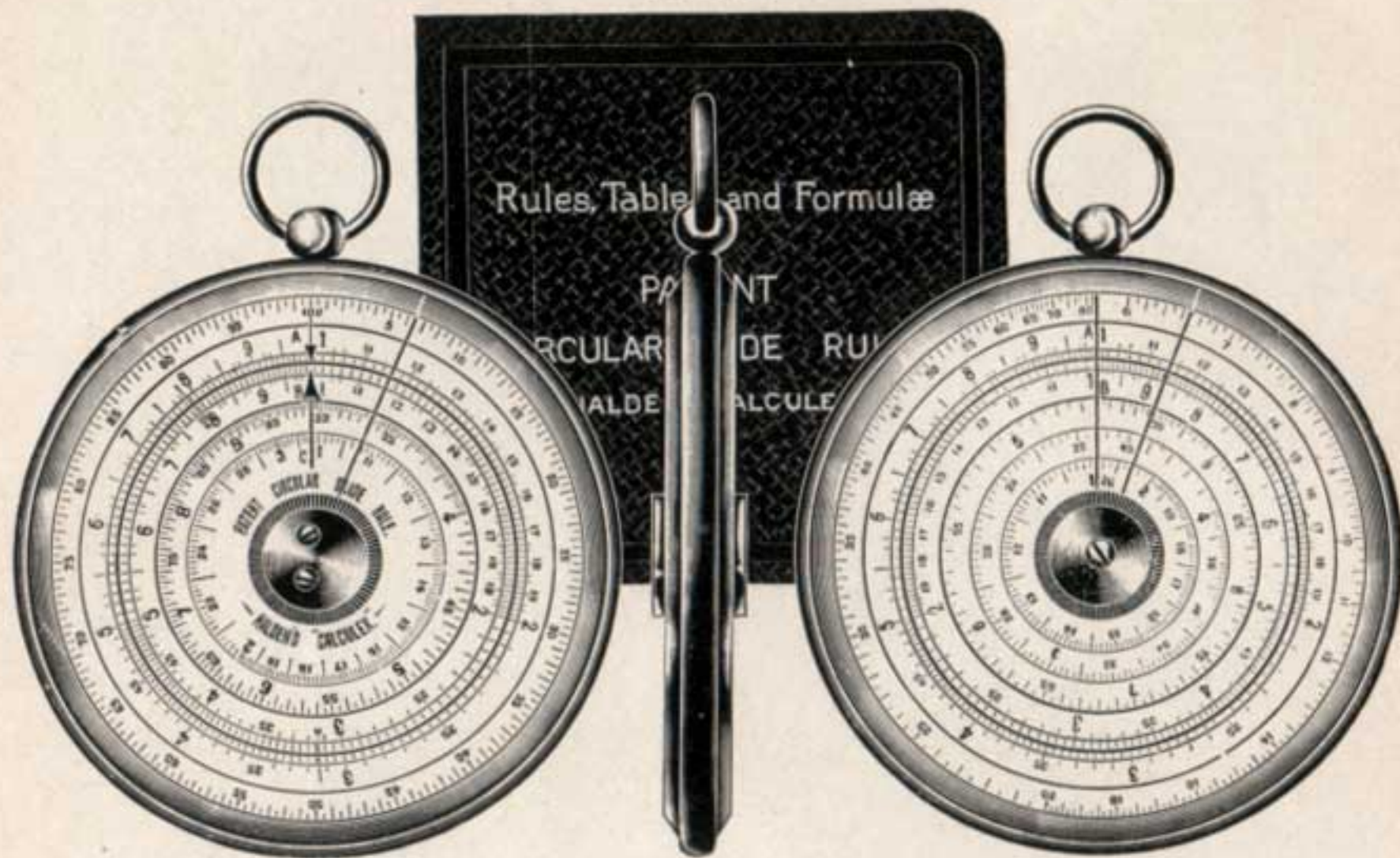
Special Quotations for Quantities.

- 1962 Portable Hygrometer, in metal case, for carrying. Specially sensitive tubes, divided on stem each £1 10 0

Hygrometers for Cotton Cloth Factories. Particulars and Prices on application.

The "Halden Calculex."

Patent.



IMPROVED PATTERN.

Upwards of 30,000 "Calculex" have been sold in Great Britain and abroad. In the United States of America and on the Continent it has had a very wide sale. These facts alone are sufficient warranty of the popularity and usefulness of this small instrument. Its uses are not confined to the requirements of Engineers; the Services—Military and Naval—have also discovered its value.

To everyone into whose hands it has come it has proved an invaluable and indispensable companion, superseding the older types of slide rule, which have, in many cases, been discarded.

For convenience and accuracy it has no rival.

It is accompanied by a complete little manual, containing all data and formulæ explanatory of the uses of the "Calculex."

IT IS THE BEST OF ALL SLIDE RULES AND IS BRITISH MADE. ITS ADVANTAGES.

It combines all the advantages of the Slide Rule with those of the Pocket Calculator.

It is only $\frac{1}{4}$ in. thick, and is very neat and compact.

It may always be at hand, being carried in the waistcoat pocket without the slightest inconvenience.

Being in a circular form, the reading is continuous without any break or end.

The Cursor Lines are very fine and very close to the Dial, and ensure great accuracy in reading.

Most calculations are made with only one setting.

It gives a great range of proportions at each setting.

If the accuracy of the setting is doubtful, it can be tested at any time.

The scales for inverse proportions are close together and can be set and read without the Cursor.

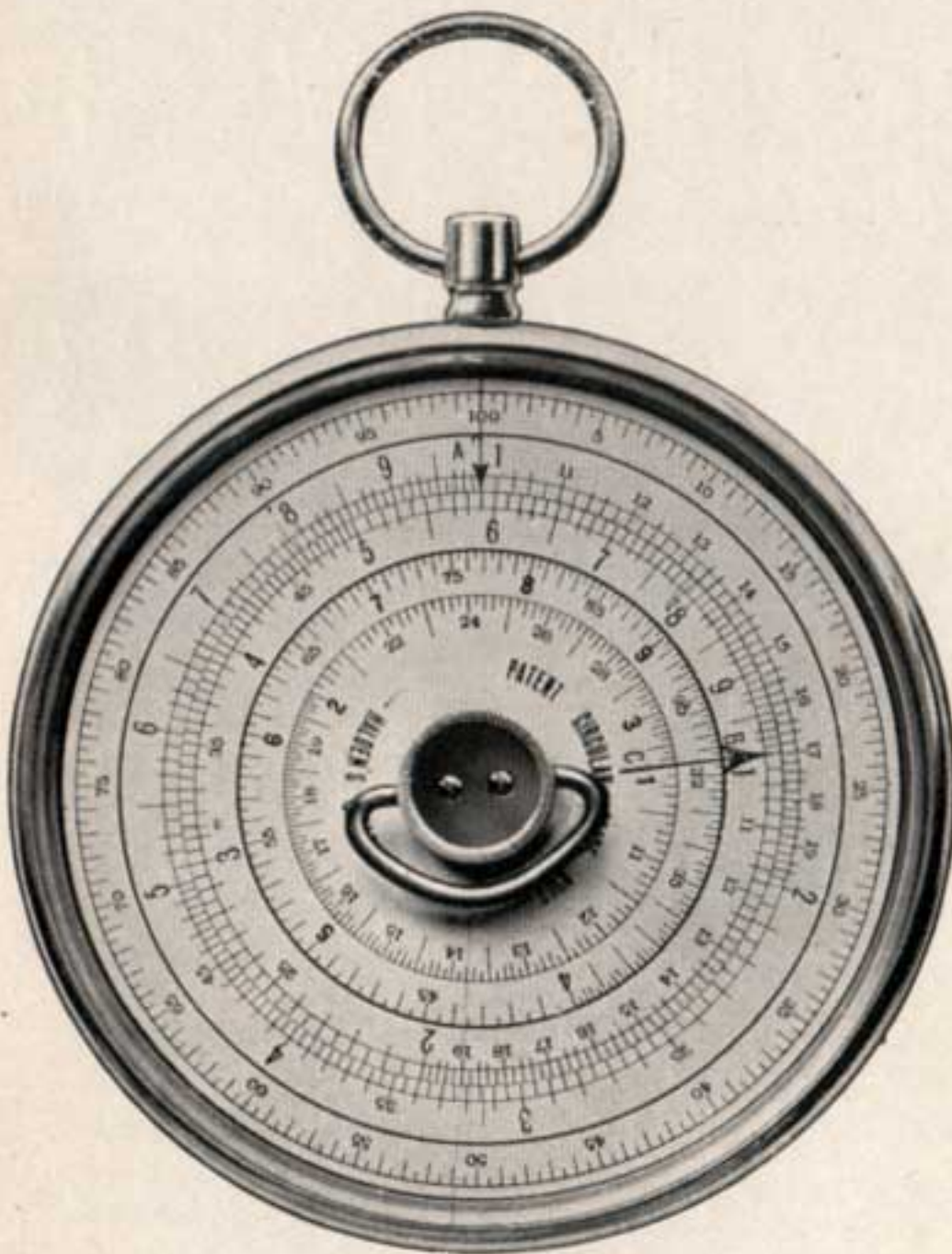
The "Halden Calculex"

	£	s.	d.
2120 Pocket "Calculex," complete in case with book of instructions, containing formulæ and data, for Engineers, Surveyors, Architects, Builders, and Business Men, &c., with glass cursor	0	12	6
2121 As above, with celluloid cursors	0	12	6
2122 As above, with rim and centre of solid silver, with glass cursors	1	10	0
2123 As above, with celluloid cursors	1	10	0

The Book of Instructions, formulæ, &c., can be supplied printed in English, German, French, or Spanish.



The above illustration shows the actual size and width of the instrument.



Illustration, Half Size.
Actual Diameter, 5½ in.



Illustration, Half Size.
Actual Diameter, 2¼ in.

This illustration shows the size of the ordinary "Calculex," as compared with the large size Desk Calculator mentioned hereunder.

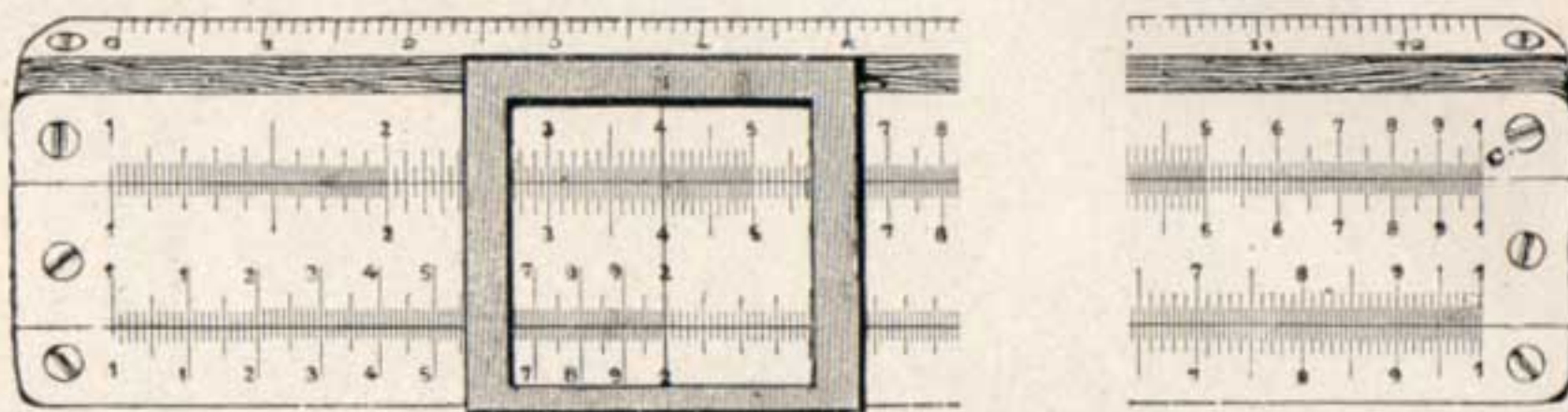
2124 Large size Desk "Calculex," complete in case, with book of rules, formulæ, &c., glass cursors	£	s.	d.
	1	17	6
2125 Book of Instructions, Formulæ, &c., in English, French, German or Spanish each	0	1	0
2126 " " large size, for desk use (printed in English only)	0	1	6
2127 Leather "Snap" Case for Pocket Calculex	0	2	6
2128 Aluminium " " " " " "	0	1	6

Halden's "Standard" Calculating Slide Rules.

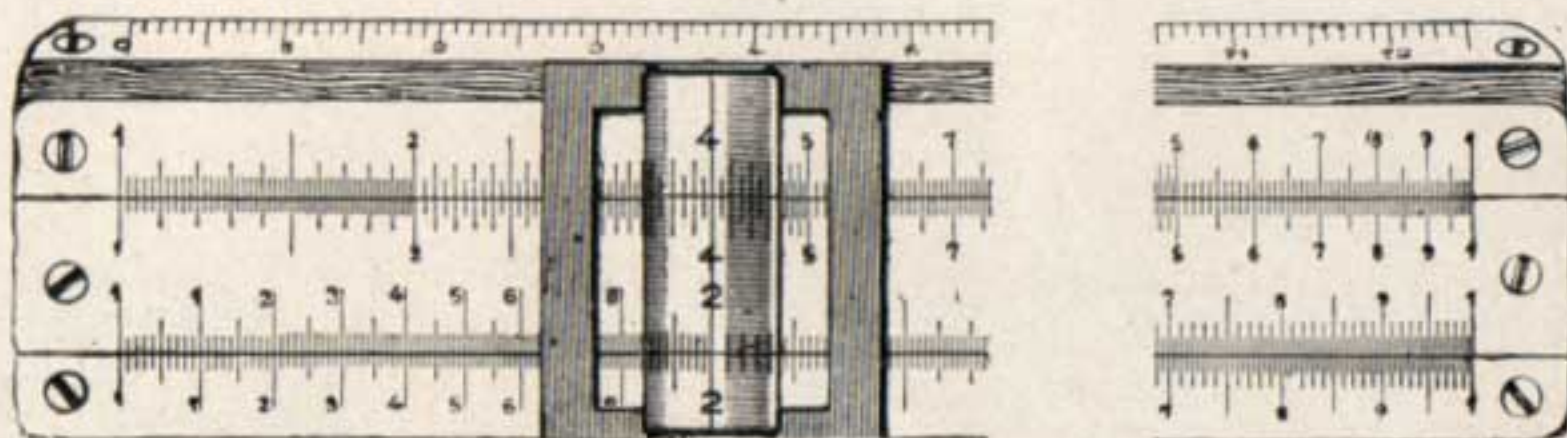
These Rules are made of well-seasoned mahogany, and faced with the best white celluloid.

All dimensions are plainly insetted in black. Each rule is provided with an aluminium cursor with glass front, with finely divided line to take off reading. Every care is taken in manufacture to ensure the accuracy of these rules.

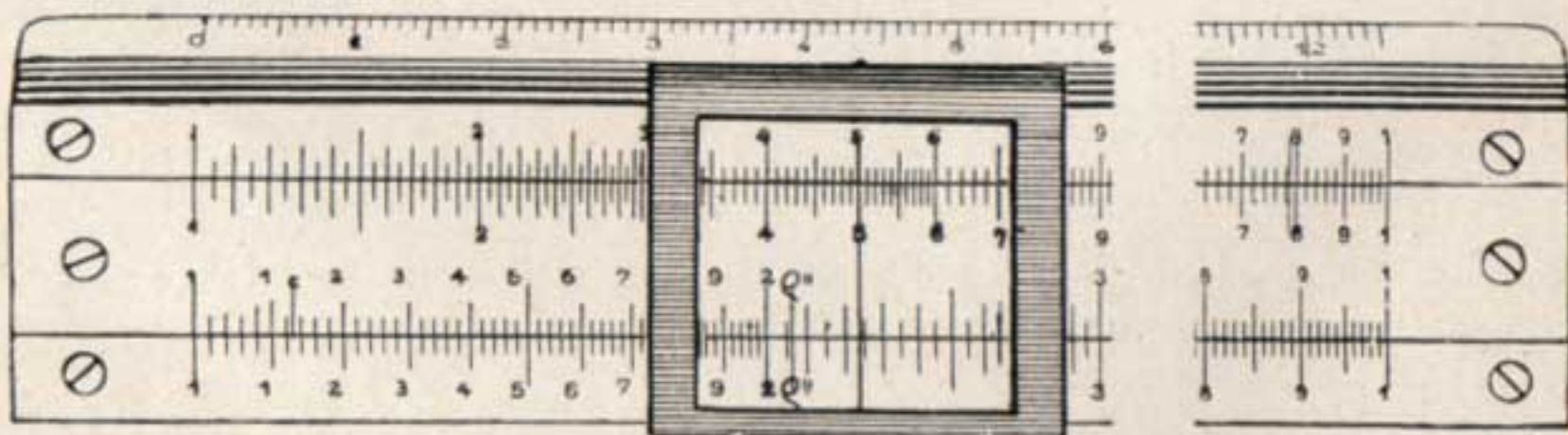
Prices for all Halden's Rules include Case and Book of Instructions.



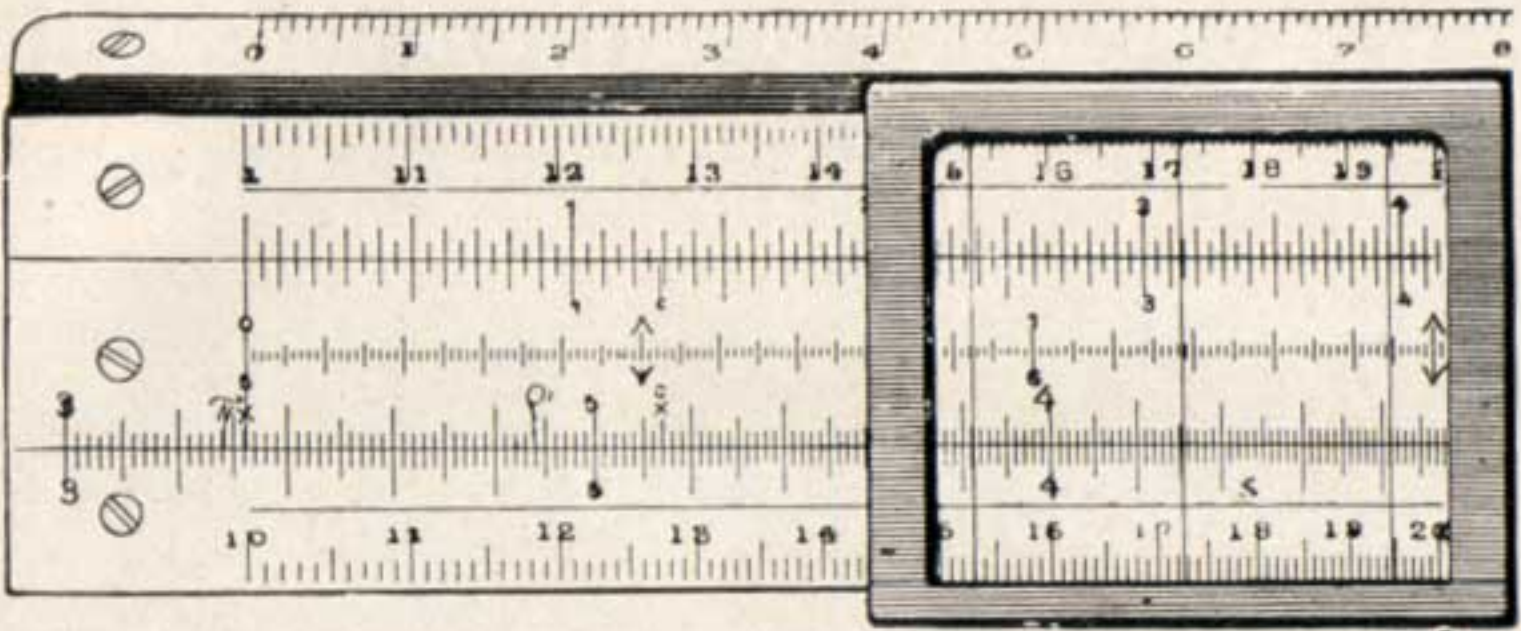
					£	s.	d.
2130	5in	size "Standard,"	extra quality, fully divided	..	0	7	6
2131	8in	"	"	..	0	8	6
2132	10in.	"	"	..	0	10	0



					£	s.	d.
2133	5in.	size, "Standard,"	extra quality, with magnifying cursor	..	0	8	6
2134	10in.	"	"	..	0	13	6

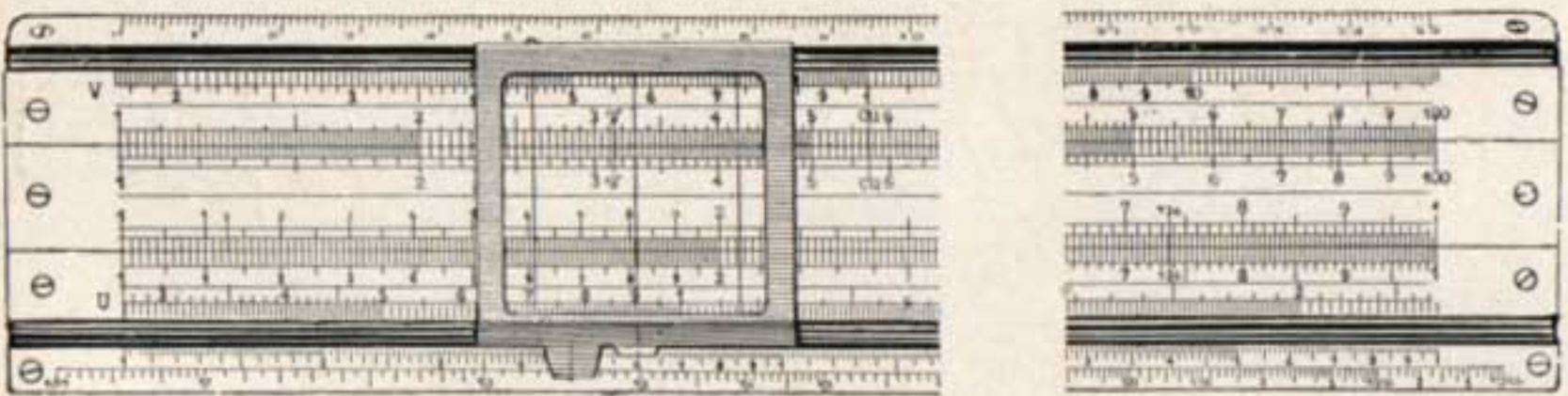


					£	s.	d.
2135	5in.	Student's Pocket Rule	..	..	0	5	0
2136	5in.	Scholar's Cardboard Slide Rule	..	..	0	1	0
2137	10in.	"	"	..	0	1	6



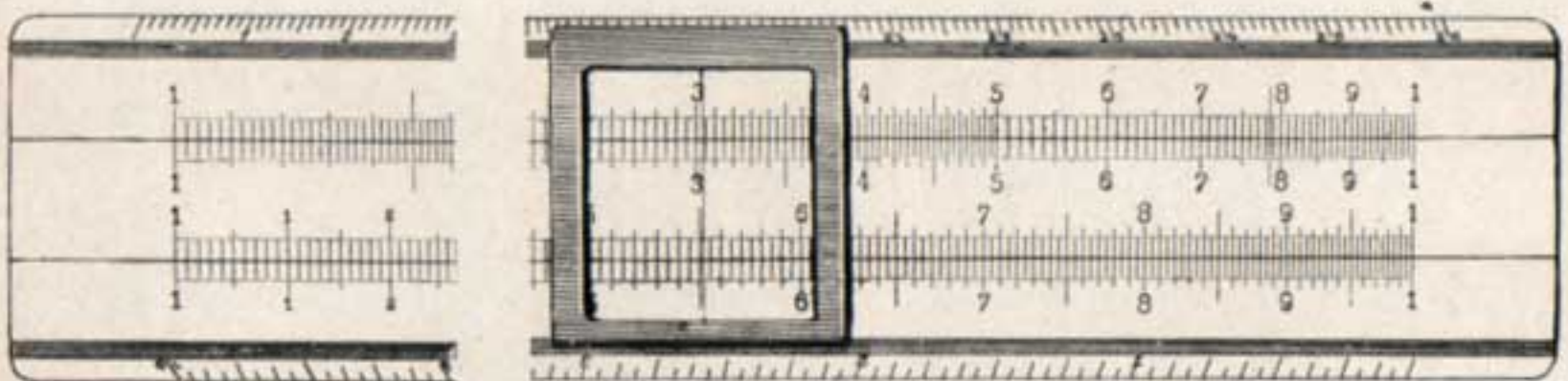
£ s. d.

2138 10in. Halden's Precision Pattern. This rule gives readings equal to a 20in. rule **1 0 0**



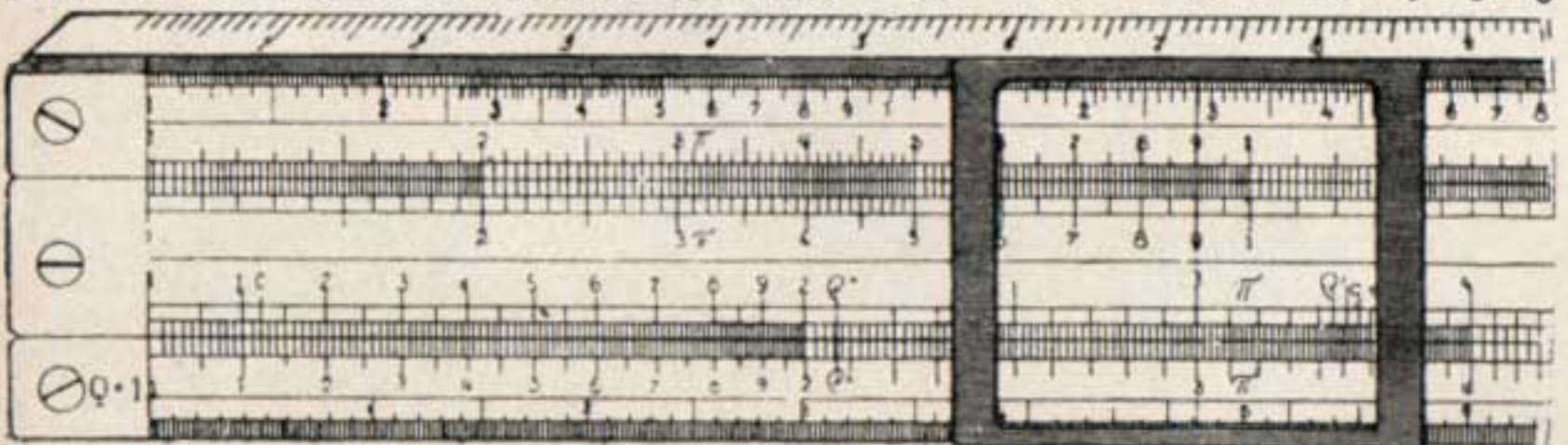
£ s. d.

2139 10in. Halden's Electro Pattern, for electrical and mechanical engineers, with log-log scale **0 12 6**



£ s. d.

2140 10in. Halden's Student's Slide Rule **0 5 6**

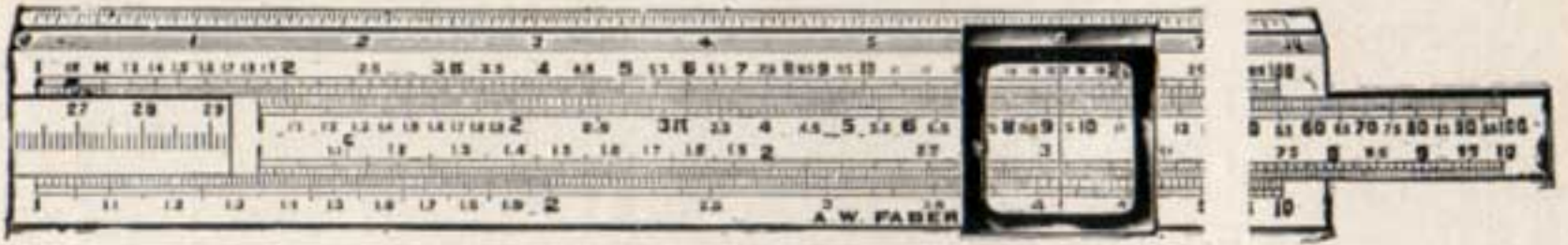


£ s. d.

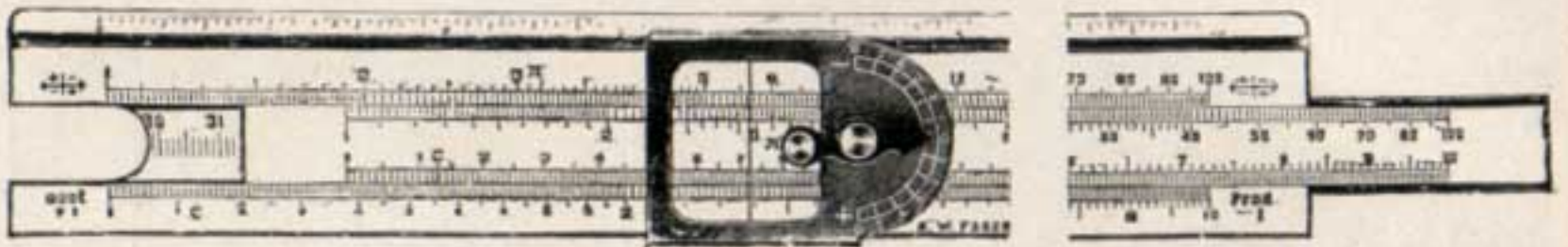
2141 6in. Rietz Pattern, with scale of logs and cubes on face .. **0 10 6**
2142 10in. " " " " " " .. **0 12 6**
2143 15in. " " " " " " .. **1 10 0**
2144 20in. " " " " " " .. **1 17 6**
2145 12in. " " " " " " with magnifying cursor **0 16 0**

A. W. Faber's Calculating Slide Rules.

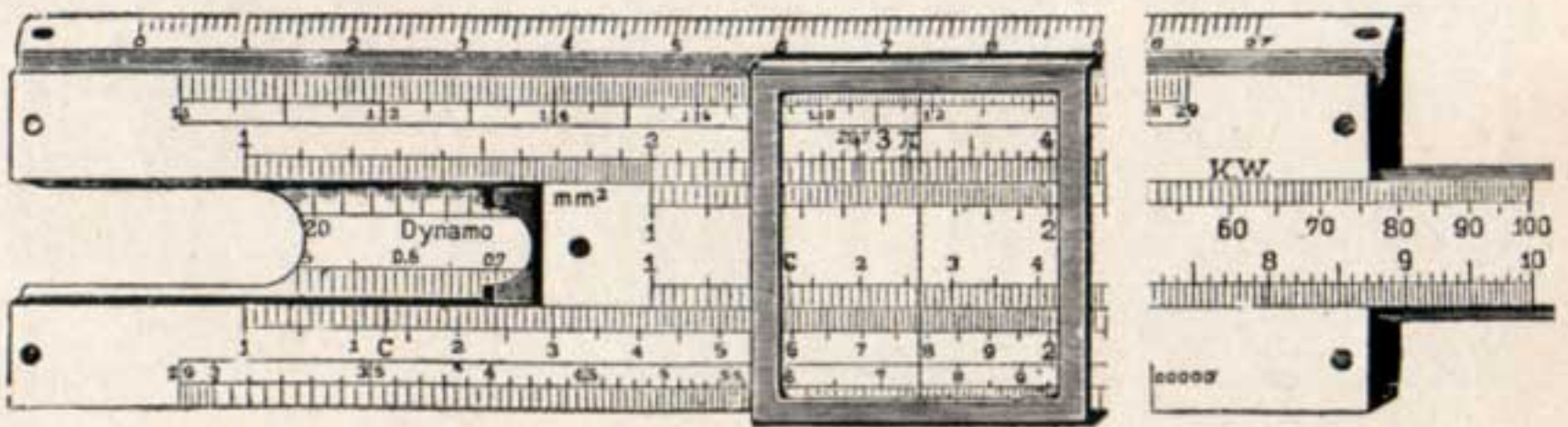
Each Rule in a cardboard case with a table of the most important constants, and brief instructions.



2146 "Castell," boxwood, 9 $\frac{7}{8}$ in. scale length, with white celluloid surface and ordinary aluminium cursor with glass.. .. £0 8 6



2147 "Castell," boxwood, 9 $\frac{7}{8}$ in. scale length, with white celluloid surface and Digit Registering aluminium cursor with glass. Similar to Rule 2146 in arrangement, but with indication marks on the stock £0 10 6



2148 "Castell" Rule for Electrical and Mechanical Engineers, with log-log scale, 9 $\frac{7}{8}$ in. scale length, with white celluloid surface and ordinary aluminium cursor with glass £0 12 0

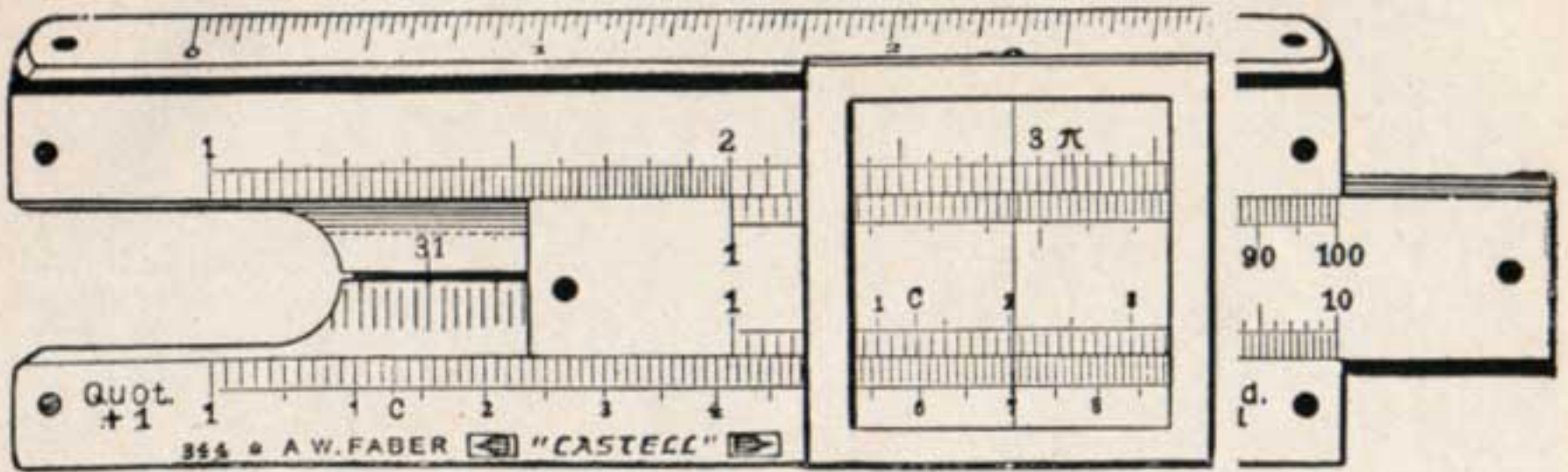


2149 "Castell," mahogany, 19 $\frac{3}{4}$ in. scale length, with ordinary cursor, celluloid surface, similar in arrangement to rule 2146 .. £1 1 0

2150 Do. Do. but with Digit Registering cursor 1 1 0

2151 Book of Instructions for A. W. Faber's Rules .. each 0 1 6

A. W. Faber's Calculating Slide Rules



									£	s.	d.	
2152	"Castell"	Precision Calculating Rule,	boxwood,	11in. long,	with white celluloid surface and ordinary aluminium cursor with glass. Similar to rule 2146, but with a scale for cubes arranged on one edge					0	10	6

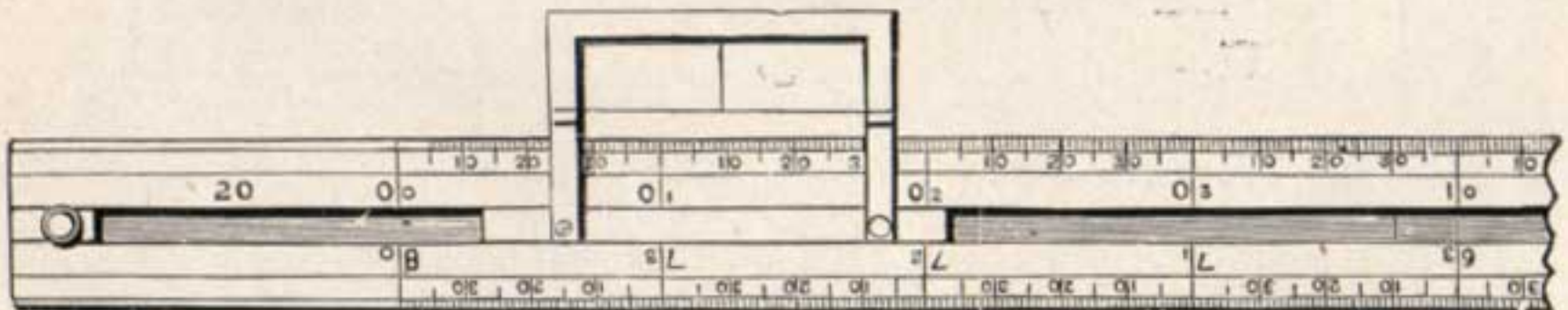
Gravet's Calculating Slide Rules.

2153	26 centimetres long,	in boxwood.. .. .							0	10	6
2154	26	" " celluloid							0	12	6
2155	36	" " " "							1	8	0
2156	50	" " " "							2	18	0

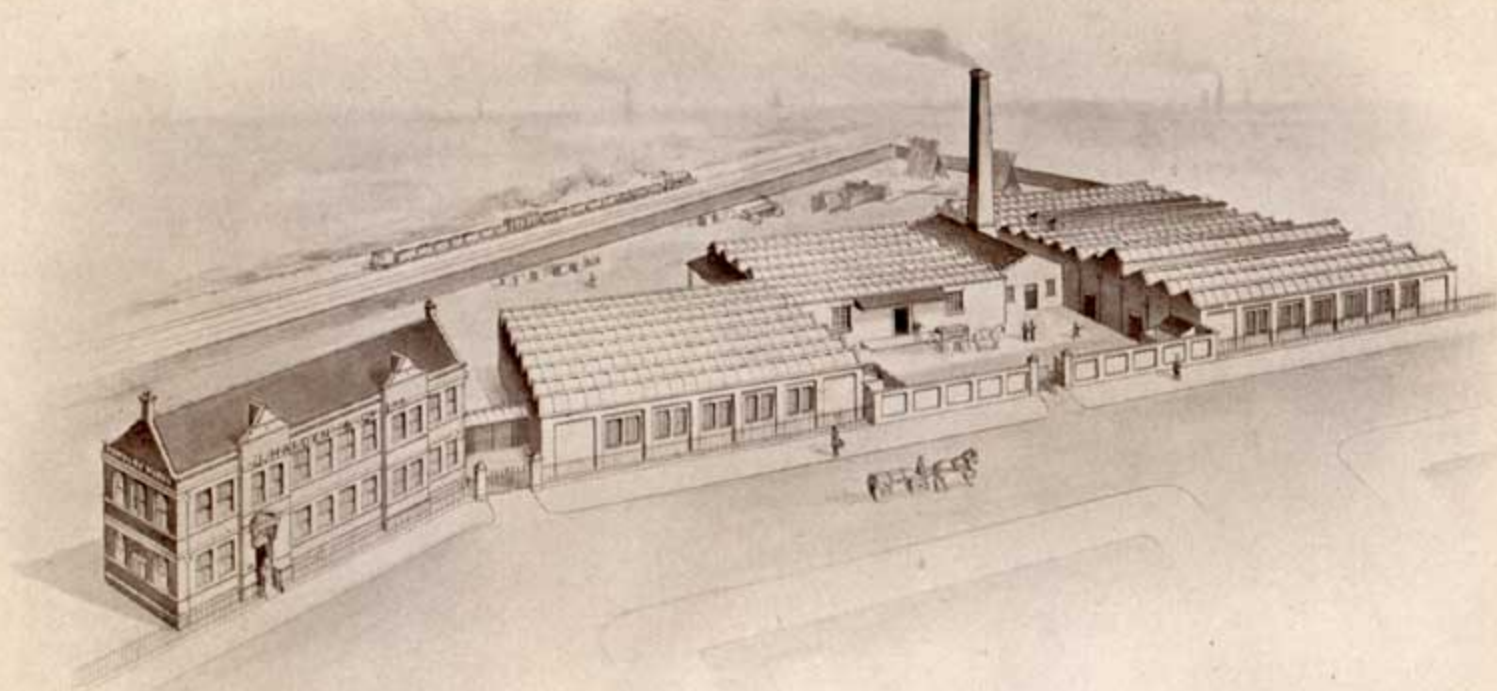
Fuller's Slide Rule.

2160	Professor Fuller's Calculating Slide Rule,	in mahogany case ..							3	0	0
2161	The same rule with extended trigonometrical scales, including Cos. ² and Sin. × Cos., for giving horizontal distances from readings of the Tacheometer and Omnimeter, by W. N. Bakewell, M.Inst.C.E.								4	10	0

Computing Scales.



										£	s.	d.
2165	Boxwood Computing Scale,	divided any two ordinary scales, each								0	15	0
2166	Universal Computing Scale, as used in Government departments, divided 1, 2, 3, 4, 5, and 6, chains, &c., complete in mahogany case.. .. .									2	10	0
2167	Extra Scales to fit above									0	3	6



ROWSLEY WORKS, REDDISH, MANCHESTER.