THE VADE MECUM SLIDE RULE.

THE VADE MECUM SLIDE RULE.

DESIGNED EXPRESSLY FOR THE TIMBER TRADE.

BY GEORGE BOUSFIELD, *Rawdon, LEEDS.*

SHOWING at one operation the Cubical or Superficial Contents of any piece of Timber, Stone, Iron, or Glass, whether round, square, or unevensided.

Also the cost of any Scantling or Board of any size at any given rate per Cubic or Superficial foot. The relative number of running feet in a Standard of any given size.

The relative number of feet, 3 by 11, contained in any given number of any other size, together with the Standard quantity reduced.

The cost of the aliquot parts of a Standard at a given rate per Standard.

Relative price per Standard at per foot, and per foot at any price per Standard.

Number of cubic feet in a Standard, or aliquot part of a Standard, of any size.

Price per foot run at per Standard.

Price per cubic foot, ditto.

Besides a host of other and miscellaneous information, which can be derived *ad libitum* by a practical acquaintance with the principle and scope of its operations.

PRICE, WITH BOOK OF INSTRUCTIONS, 21s.

PREFACE.

THE present work is designed as a Companion to the Vade Mecum Slide Rule, which I have now pleasure in submitting to the Trade, believing that, from an acquaintance with the principles on which the same is worked, together with a careful study of the directions, given in this Manual, the operator will have no difficulty in ascertaining for himself any result, from the simplest sum to the most complex problem.

The extensive sphere of application afforded by one operation on this Rule, and the general bearings of any question being seen from it at a glance, render it of such unique importance that it cannot fail to be appreciated, after a little practical knowledge of its workings.

The superiority of Instrumental Arithmetic over the tedious process of the orthodox system is at once discernible, for the same operation which produces one result (and that with the slightest possible mental exercise) is also capable of producing fifty more, without even disturbing the slide: and, as this system is almost entirely free from danger of inaccuracy, the mistakes incidental to the ordinary method are avoided.

I have endeavoured to make the *modus operandi* both simple and clear, and, though it is possible to develop the extent of its uses far beyond the limits of this little work, I think sufficient examples have been given to show the diversity of application of which it is capable, and by the time the operator has mastered it thus far, he will have become thoroughly familiar with the basis of its operations, and be well able to make rules for himself, for further development of this Science.

GEORGE BOUSFIELD.

Sylvan House, Rawdon, Leeds.

CONTENTS.

THE VADE MECUM SLIDE RULE.

INTRODUCTION.

This Rule has been constructed with a view primarily to simplify the measuring of Round, Square, and unsquared Timber, which necessarily form a considerable part of a Timber Buyer's business, but at the same time is capable of an exhaustless variety of uses, in the computation of all the various and abstruse calculations found not only in the Timber, but all other kindred trades, such as Brick, Stone, Iron, Glass, etc.

It consists of a Rule, the frame of which is twelve inches long, and marked on one edge in inches and parts, and the slide or middle part is thirteen inches long, so that it can be easily moved up and down, and that when drawn out within an inch of its length, the Rule will just

measure two feet, and can be used in the same way as an ordinary two-foot rule, being marked on one edge and down the middle of one side in inches for this purpose.

On one side the divisions are marked decimally, and on the other side duodecimally; that is to say, one side is divided into feet, inches, and parts, whilst the other is divided into feet and decimal parts of a foot, or units, tens, and hundreds, on the same logarithmic principle.

The decimal side comprises four scales, marked A, B, C, D.

A, B, and C consist of two radii each, whilst the girth line D is a single radius extending from 4 to 40.

The numbers advance in a tenfold proportion in each radius, according to the value you place upon the first.

Thus, if the first 1 represents one-tenth, the middle 10 will represent 1 and the end 10; or if the first 1 represents unit, the middle ten will represent 10 and the end 100; and so on, the intermediate divisions following in like proportion.

The decimal side will be noticed to be constructed on precisely the

same principle as the ordinary brass slide in a Carpenter's Slide Rule, with the exception that the brass slide works horizontally, and this is worked vertically, and the figures, being large, are more easily discerned; so that whatever the brass slide is capable of, as set forth in the exhaustive treatises on Instrumental Arithmetic, the same can be claimed, and with greater ease and accuracy, for this portion of the Rule alone.

The decimal side also contains on its bevelled edge a $\frac{3}{16}$, $\frac{1}{8}$, $\frac{1}{4}$, and $\frac{3}{8}$ scale, for taking off quantities from plans, besides, on the opposite square edge, an alternate duodecimal scale for use in determining the aliquot parts of an integer, whether feet and inches, or shillings and pence.

The duodecimal side comprises seven scales or radii, marked respectively E, F, G, H, I, J, and K. E and K are decimally arranged for use when deciphering decimal parts of a multiple number.

F is a duodecimal scale ranging from 100 to 1.

G & I	,,	,,	,,	,,	,,	5 ins. to 80 ft.
J	,,	,,	,,	,,	,,	$1\frac{1}{2}$ ins. to 150 ft.

H is a scale of Standard quantities ranging from 3 parts, or 18 ft. 3 × 11, to 5 St.

This side is intended for cubing unevensided Timber or Scantling, reducing to Standards, without calculation, any number of running, superficial, or cubic feet, or *vice versa*.

On the square edge of the Bevelled side of the Rule will be observed an alternate scale of duodecimal divisions, for use, when the answer is required in twelfths, as when the integer consists of Shillings or Feet.

PROBLEM No. I.

To ascertain the Cubic Contents of Round or Square Timber by the Quarter Girth.

This problem is worked on the Bevel side of the Rule, and in order to move the slide easily, hold the Rule in the left hand, gripping it between the thumb and forefinger, whilst pressing the other end against the breast, when practicable, and moving the slide by the thumb and two fingers of the right hand.

Next carefully note the Column marked on the top D, and remember in working this problem that whatever length you have, you place that number opposite 12 in this column, against which number the figure 144 will be noticed (signifying that that Gauge point answers where 144 is the divisor), and having set the Rule thus, observe opposite the Quarter Girth the required contents of the Log.

Example.—The length of a Tree being 25 feet, and the mean quarter girth 10 inches, what is its contents?

Set 25 on C to 12 on D, and against 10 on D is $17\frac{1}{3}$ cubic feet on C.

Note.—If the Tree tapers, take the middle girth or half the girth at each end. If it is irregular, make separate calculations at each offset, and add the total for the contents.

The above rule of measuring by $\frac{1}{4}$ girth the common gives the answer about one-fourth less than the true quantity; this, however, may be reckoned as an allowance for the squaring of the tree.

PROBLEM No. II.

To ascertain the *actual* contents of Round Timber :—

First observe on Column D a Gauge point between 10 and 11, marked with an asterisk, and having the No. 113 over it (signifying that this G.P. answers where 113 is the divisor), against this line place the length of Log on C, and opposite the $\frac{1}{4}$ girth or square side on D observe the actual contents on C.

Example.—What is the actual contents of the foregoing example?

Set 25 on C to Gauge Point on D, and against 10 on D is $22\frac{1}{2}$ on C, the actual contents ; or

Set 50 (double length) on C to 12 on D, and against 8 on D (one-fifth girth is $22\frac{1}{2}$ cubic ft. on C.

PROBLEM No. III.

To ascertain the cubic contents from the diameter, answering to the quarter girth, 144 divisor :—

In the first place observe the Gauge Point, marked 233 on D, against which place the length on C, and opposite the diameter on D will be the contents on C.

Example.—What is the cubical contents of a tree whose length is 22 ft., and diameter in the middle, evenly tapered, 28 in. ?

Set 22 on C to Gauge Point marked 233 on D, and against 28 on D will be 74 cubic ft. on C.

PROBLEM No. IV.

To ascertain *actual* cubic contents from the diameter answering to the 183 divisor (Customs Measure) :—

First note the Gauge Point on D, marked 183, and place the length on C to this line, and opposite the diameter on D will be found the actual contents answering to the 183 divisor on C.

Example.—What is the actual contents of a piece of Timber 18 ft. long, 19 in. diameter, answering to the 183 divisor?

Set 18 on C to Gauge Point marked 183 on D; and against 19 on D will be found $35\frac{3}{4}$ cubic ft. on C. ✕ 35½ shown

PROBLEM No. V.

To ascertain the superficial contents from the length and breadth.

First note that in reckoning superficial measure, you use the two Columns marked I and J on the square side of the Rule, the Gauge Point to which all lengths must be placed is marked 12 on J, and then by passing your eye down the column to the breadth given, you will observe the superficial contents on I.

Example.—What is the Superficial Contents of a Mahogany Board $17\frac{1}{2}$ ft. long, $22\frac{3}{4}$ in. broad?

Set $17\frac{1}{2}$ on I to 12 on J, and against $22\frac{3}{4}$ on J will be $33\frac{1}{3}$ on I.

PROBLEM No. VI.

To ascertain the Cubical Contents of Unsquared Timber or Scantlings.

In the first place remember that this Problem is worked on the Square or duodecimal side of the Rule, and the two outer Scales of figures, F and J, represent the two sides of the Scantling; whilst the Scale of figures on the left edge of the slide marked G represents the length, and in the right edge marked I will be found the Cubical Contents.

Example.—What is the Cubical Contents of a piece of Timber $18\frac{1}{2}$ ft. × $16\frac{3}{4} \times 15\frac{1}{2}$ in.?

Set $18\frac{1}{2}$ on G to $16\frac{3}{4}$ on F, and against $15\frac{1}{2}$ on J will be found $33\frac{1}{3}$ Cubic ft. on I.

PROBLEM No. VII.

To ascertain cost of a piece of Timber or Scantling at a given price per Cubic foot.

First follow out the directions of the preceding Problem, by placing

the length on G to one side of the square on F ; but, instead of reading the Contents on I opposite the other side on J, you must multiply the last dimension by the rate per Cubic foot, and opposite this product on J will be the value in shillings and pence on I.

Example.—What is the value of an Oak Scantling 16½ ft. long, 3½ × 8½ in. at 4s. per Cube ?

Set 16½ on G to 8½ on F, then against 14 (*i.e.*, 4 times 3½) will be found 13s. 7½d. on I.

PROBLEM No. VIII.

To ascertain equivalent per Lineal foot of Scantling at so much per Cubic foot.

Set the price per Cubic foot on G to one of the dimensions on F, then opposite the other dimension on J will be found the equivalent in shillings and pence on I.

Example.—What is the equivalent per foot run of a Scantling 7½ × 9½ at 3s. 9d. per Cubic foot ?

Set 3¾ shilling on G to 7½ on F, then against 9½ on J will be found 1s. 10¼d. on I.

PROBLEM No. IX.

To ascertain the Cubical Contents and Standard quantity of any number of Lineal feet of Timber, Deals, Scantlings, or Boards at one operation.

Place one dimension on F to the other size on G, and next observe for this purpose that the Scales I and J are to be read in a tenfold proportion, and opposite the given number of lineal feet on J, will be seen the Cubic contents reckoned tenfold on I and the equivalent Standard quantity on H.

Example.—What is the Cubical Contents and Standard quantity of 380 ft. 2½ × 9 in. ?

Set 2½ on F to 9 on G, and against 380 (38) on J will be found 59⅓ Cubic ft. or St. 0. 1. 13⅓ on I.

Note.—On careful examination of the Scales H and I, you will notice that they represent a Table of Standard quantities and Cubic feet (read tenfold) side by side, so that a mere reference to them will show at once the relative Cubic Contents of any aliquot part of a Standard.

PROBLEM No. X.

To find the value of an aliquot part of a Standard or any number of Cubic feet at any price per Standard.

RULE.—Set St. 1.0.0 on H to the price in pounds on J, and against the aliquot part on H, or the number of Cubic feet on I (read tenfold), will be the relative value of the aliquot part or number of Cubic feet on J and K.

Examples.—What is the value of St. 0.2.15 at £10 10s. per Standard?

Set St. 1.0.0 on H to £10 10s. on J, and against St. 0.2.15 on H will be found £6 11s. 3d. on J and K.

What is the value of 65 Cubic ft. at £12 5s. per Standard?

Set St. 1.0.0 on H to £12 5s. on J, and against 65 (or $6\frac{1}{2}$) on I will be found £4 16s. 6d. on J and K.

PROBLEM No. XI.

To find the equivalent per Foot run and per Standard of a given size.

RULE.—Set the thickness on F to the breadth on G, and wherever the Gauge Point below 13 marked with an asterisk cuts on J will be found the equivalent per foot at £9 per Standard. Then having placed this figure on I to £9 (also marked with an asterisk), pass your T-square down the scale until you come to the set price per Standard on J and K, and opposite this amount will be found the equivalent in pence per foot on I.

Example.—What is the price per foot of 3 × 9 at £11 per Standard?

Set 3 on F to 9 on G, and against the Gauge Point (below 13) will be found $2\frac{11}{24}$ths, nearly on I, which is the equivalent per foot run at £9 per Standard, and by placing this price opposite £9 on J, will be found opposite £11 on J the required equivalent, 3d. per ft., on I.

PROBLEM No. XII.

To reduce the London or Irish Standard or aliquot part thereof to Petersburg Standard.

Set the London or Irish Standard quantity opposite 11 on J, and against 18 on J will be found the Petersburg Standard quantity equal to it.

Example.—Reduce St. 0.3.24 L. and I. Standard to Petersburg Standards.

Set St. 0.3.24 on H to 11 on J, and against 18 on J will be found Standard $1.2.6\frac{6}{11}$ on H.

PROBLEM No. XIII.

To ascertain the price per Standard at so much per Cube foot.

RULE.—Set 12 on I to $8\frac{1}{4}$ (or £8 5s.) on J and against any price in pence on I will be found the relative value per Standard in pounds on J.

Example.—What is the relative cost per Standard at 2s. 4d. per Cube foot?

Set 12 on I to £8 5s. on J, then against 28 on I will be found £19 5s. per Standard on J.

PROBLEM No. XIV.

To ascertain price per Load of 50 Cubic ft. at any price per Standard.

RULE.—Set 50 on I (or 5) to 165 on J (or $16\frac{1}{2}$ on J), and against cost per Standard in shillings on J is price per load on I.

Example.—At £16 10s. per Standard, what is that per load of 50 Cubic feet?

Set 165 on J to 50 on I, then against 330 on J will be found 100 shillings or £5 on I.

PROBLEM No. XV.

To ascertain the number of Running Feet in a Square of any given width.

RULE.—Set width on A to 12 on B, then against 100 on A will be found the running feet in a Square on B.

Example.—What is the number of running feet contained in a Square of 6½-in. Flooring boards ?

Set 6½ on A } - - then against - - - 100 on A
to 12 on B ∫ - - - is - - - - - 184½ on B

Note.—In the above instances, as the slide does not admit of running below 100, you can use the intermediate 10 as 100, and multiply the division tenfold proportionately, as shown above.

PROBLEM No. XVI.

To ascertain the number of Running Feet in a Square yard of any width.

RULE.—Set the width on A to 12 on B, then against 9 on A will be found the number of running feet on B.

Example.—How many feet in a Square yard of Boards 5½ in. wide ?

Set 5½ on A } - - then against - - - - 9 on A
to 12 on B ∫ - - - - is - - - - - -19½ on B

PROBLEM No. XVII.

To ascertain the number of Cubic feet contained in any Standard quantity.

RULE.—Place the corresponding figures on I and J exactly opposite each other.

Then read as a Table the number of cubic feet on J and K opposite the Standard quantity, reckoning each figure in radius J tenfold, and the decimal outer edge K in like proportion.

Example.—Required the number of Cubic feet contained in St. 1.0.20.

Having placed the two scales I and J opposite each corresponding figure, find St. 1.0.20 on the Standard quantity scale H, and directly opposite this, on the outer edge K, will be found 192½ cubic ft. on J and K.

PROBLEM No. XVIII.

To ascertain the cost per Cubic foot at any price per Load of 50 ft., or *vice versa*.

RULE.—Set 12 on I to 50 on J, and against the price per Load on J will be found the price in pence per Cubic foot on I.

Example 1.—At 72s. per Load of 50 ft., what is that per Cubic foot?

Set 12 on I to 50 on J } - - and against - - - - - - - - 72 on J
- - - - - is - - - 17¼d. per Cubic Ft. on I

Example 2.—At 1s. 4½d. per Cubic ft., what is that per Load?

Set 12 on I to 50 on J } - - and against - - - - - - - 16½ on I
- - - is - - - 68s. 9d. per load on J

PROBLEM No. XIX.

To ascertain the relative value between Petersburg and London or Irish Standard (120·12f. 3×9).

RULE.—Set 11 on A to 18 on B, then against any price for Petersburg Standard will be found the relative price per London or Irish Standard.

Example.—What is the relative price per London Standard at £10 per Petersburg Standard?

Set 11 on A to 18 on B } and against - - - - - 10 on A
- - is - - - - £16 7s. 3d. on B

PROBLEM No. XX.

To find price per London or Irish Standard at any price per Cubic foot.

RULE.—Set 12 on I to 13½ on J, and against any price in pence on I will be found the relative value per London or Irish Standard in pounds on J.

Example.—Required the price per London or Irish Standard at 1s. 4d. per Cubic foot.

Set 12 on I } and against - - 16 on I
to 13½ on J } - - is - - - £18 on J

PROBLEM No. XXI.

To find price per Fathom at any price per Cubic foot.

RULE.—Set 12 on I to 10⅘ on J and K, and against any price in pence on I will be found the price on J and K per Fathom.

Example.—What does 1s. 7d. per Cubic foot come to per Fathom?

Set 12 on I } and against - - - 19 on I
to 10⅘ on } - - is - - - - £17 2s. on J and K
J and K }

PROBLEM No. XXII.

To reduce any number of Lineal feet of any size to Standard quantity, or *vice versa*.

Note.—For this purpose observe that the numbers marked on J are reckoned tenfold, and the intermediate divisions in like proportions, so that 2 stands for 20, 3 for 30, and so on.

RULE.—Set the thickness on F to the breadth on G, then against the number of running feet on J will be found the reduced quantity on H.

Example.—Reduce 990 ft. 3 × 11 in. to Standard measurement.

Set 3 on F } and against { 990 on J
to 11 on G } is { St. 1.1.15 on H

Or *vice versa*, against St. 1.1.15 on H is 990 running ft. on J.

PROBLEM No. XXIII.

To ascertain the cost of Laths per Standard at per running foot of bundle of twenty Laths each.

RULE.—As 4,800 on A is to the number of running feet in a Standard on B, so is the price per foot in pence on A to the cost in pounds on B per Standard.

Example.—What is the rate per Standard of Slate laths $\frac{3}{4} \times 1\frac{1}{2}$ in. (or 8 out of $1\frac{1}{2} \times 7$) at $2\frac{1}{2}$d. per foot in the bundle of 20 each?

Set 4,800 on A (or say 48 on A) to 18,104 on B (or say 181 on B)	and against - - - -	$2\frac{1}{2}$ on A
	- - is - - -	£9 8s. 6d. on B, the rate per P.S.

PROBLEM No. XXIV.

To ascertain the 100th parts of a Standard.

RULE.—Set 5 on J to St. 0.0.6 on H, and then read as a table the relative Standard quantities and 100th parts thereof.

Example.—What is the Standard quantity of 90-100ths of a Standard?

Set 5 on J to St. 0.0.6 on H	and against - - - -	90 on J
	- - is - - - -	St. 0.3.18 on H

PROBLEM No. XXV.

To ascertain the Cubical contents of Brickwork and the number of Bricks contained in any dimension of walling.

RULE.—Set the length of the wall in feet on G to the height on F, and against the thickness in inches on J will be found the 12th part of the cubical feet on I; then,

As 1 on A is to this result on B, so is $2\frac{1}{4}$ on A to the cubic yards on B.

Example.—What is the number of cubic feet contained in a wall 20 ft. long, 10 ft. high, and 1 brick thick?

Set 21 on G } and against { 9 on J
to 10 on F } is { $13\frac{1}{3}$ on I × 12 = $157\frac{1}{2}$ cubic ft.

Then as 1 on A is to this number of cubic feet on B, so is 13 on A to the number of bricks on B.

Set 1 on A } and against - - 13 on A
to $157\frac{1}{2}$ on B } - - is - - - 2,050 on B,
the number of bricks.

Note.—It is ascertained that, allowing for joints, 4 courses of bricks measure $13\frac{1}{2}$ in., hence 13 to the cubic feet is the nearest approximation that can be made to the true quantity.

PROBLEM No. XXVI.

To ascertain the price per cwt. at any price per Pound.

RULE.—As 15 on A is to 7 on B, so is the price per lb. on A to the value per cwt. on B.

Example.—At 10d. per lb., what is that per cwt.?

Set 15 on A } then against - - - - 10 on A
to 7 on B } - - is - - £4 13s. 4d. on B

PROBLEM No. XXVII.

To ascertain the weight avoirdupois of any quantity of Gallons, liquid measure.

RULE.—As 112 on A is to 9 on B, so is the number of gallons on A to the weight in cwts. on B.

Example.—What is the weight of 63 gallons avoirdupois?

Set 112 on A } then against - - - - - - - 63 on A
to 9 on B } - - is - - - 5 cwt. 0 qr. 7 lbs. on B

PROBLEM No. XXVIII.

To find the amount of interest due on any number of £'s at 5 per cent. for any number of days.

RULE.—As 365 on A is to the number of days on B, so is the Principal in shillings on A to the interest on B.

Example.—£110 at 5 per cent. for 50 days.

Set 365 on A } and against - - - 110 on A
to 50 on B } - - is - - 15s. $0\frac{3}{4}$d. on B

PROBLEM No. XXIX.

To find the circumference of a circle, the diameter being given.

RULE.—Set 1 on I to the diameter on J, and against the Gauge point, below 3 on I (marked with an asterisk) * will be found the circumference on J.

Example.—Required the circumference of a circle whose diameter is 21 in.

Set 1 on I to 21 on J, and against the Gauge point on I will be found 66 on J—the circumference.

PROBLEM No. XXX.

To find the side of a square equal in area to any given circle.

RULE.—Set ·886 upon B to 1 on A, then against any diameter of a circle on A is the side of a square that will be equal in area upon B.

Example.—What is the side of a square equal in area to a circle whose diameter is 28 in. ?

Set ·886 on B } and against - - 28 on A
to 1 on A } - - is - - 24·8 on B, the area.

PROBLEM No. XXXI.

To reduce any number of Squares to standard measurement, or *vice versa*.

RULE.—Set the thickness on F to 12 on G, then against ten times the number of Squares in J will be found the required Standard quantity on H.

Examples.—What is the Standard quantity of 13 Squares of 1 in. Boards?

Set 1 on F to 12 on G, then against 130 on J will be found St. 0.2.19.

What is the number of Squares contained in St. 0.1.25 of $\frac{3}{4}$ in. Boards (4 out of 3 in.)?

Set $\frac{9}{12}$ths (or $\frac{3}{4}$) on G to 12 on F, and against 0.1.25 on H will be found $12\frac{1}{2}$ Squares, or one-tenth the quantity on J.

What is the number of Squares in 0.1.25 of $\frac{7}{8}$ Boards (3 out of $2\frac{1}{2}$ in.)?

Set $\frac{10}{12}$ths (or $\frac{5}{6}$=3 ex $2\frac{1}{2}$) on G to 12 on F, and against 0.1.25 on H will be found 11 Squares (one-tenth of 110 on J.)

PROBLEM No. XXXII.

To ascertain relative price per 120 Lineal ft. of any size at per Standard.

RULE.—Set the one size on F to the other size on G, and carefully note where the Gauge point marked * 120 on J cuts on I, and move this point upward in line with 9 on J, and then read as a Table the relative prices in shillings on I, opposite the Equivalent in pounds and aliquot parts of a pound on J and K.

Example.—What is the price per 120 ft. of Slate Laths $\frac{3}{4} \times 1\frac{1}{2}$ at £10 10s. per Standard?

Set $\frac{3}{4}$ (or $\frac{9}{12}$ths, the fifth figure from the top) on G opposite $1\frac{1}{2}$ on F, and notice that the G P * 120 is nearly opposite 1s. $0\frac{1}{2}$d. on I, then move this point to 9, and observe opposite £$10\frac{1}{2}$ on J will be found 1s. $2\frac{1}{3}$d. per 120 ft. in J, the relative price at £10 10s.

PROBLEM No. XXXIII.

To ascertain relative price per Gross of any Scantling at a given price per Standard.

RULE.—Set the thickness on G to the breadth multiplied by the length in feet, on F, and then see where the G. P. marked * 144 on J cuts on I, and move this point upward to 9 on J, and then read as a Table the relative prices per gross in shillings on I opposite the equivalent in pounds and aliquot parts of a pound on J and K.

Example.—What is the relative price per Gross of Birch Squares, 3 ft. long 2 × 2 at £10 10s. per Standard?

Set 2 on F to 6 on G, then observing the point in line with G. P. marked * 144 on J, move this point upward till it cuts 9 on J, and then opposite 110½ on J will be found 15s. 3d. per gross on I.

PROBLEM No. XXXIV.

To ascertain relative price per 100 Lineal ft. of any size at per Standard.

RULE.—Set the one size on F to the other size on G, and carefully note where the Gauge point marked *100 on J cuts on I, and move this point upward in line with *9 on J, and then read as a table the relative prices per 100 lineal ft. in shillings and pence on I opposite the equivalent in pounds and aliquot parts of a pound on J and K.

Example.—What is the relative price per 100 ft. of mouldings, ¾ × 2, at £30 per Standard?

Set ¾ (9/12ths) on G to 2 on F, and against *100 on J will be found 1s. 1¾d. on I, which represents the value at £9 per standard. Then move this point upward to *9, and you will see opposite £30 on J the required price, 3s. 9½d., on I.

PROBLEM No. XXXV.

To ascertain relative price per 144 Lineal ft. of any size at per Standard.

RULE.—Follow the directions as given in Problems XXXII. and XXXIV. except that instead of using the *100 and 120 Gauge point, substitute for it the *144 Gauge point.

PROBLEM No. XXXVI.

To ascertain number of Lineal ft. in a square of any size.

RULE.—Place the thickness on F to the breadth on G, and opposite 0.0.6 on H will be found the number of Lineal feet (read tenfold) on J.

Example.—What is the number of Lineal ft. of 1 × 5 in a Square ?

Place 1 on F to 5 on G, and against 0.0.6 on H is 240 on J.

PROBLEM No. XXXVII.

To ascertain the Lineal ft. of any size contained in a Cube ft.

RULE.—Place 1 on I to one dimension on J, and against the other dimension on F will be found the Lineal ft. in a cube on G.

Example.—How many Lineal ft. are contained in a cubic ft. of 3 × 4½ in. ?

Place 1 on I to 4½ on J, and against 3 on F will be found the answer, 10¾ nearly, on G.

PROBLEM No. XXXVIII.

To ascertain the Cubic Contents of blocks of stone, or similar materials.

RULE.—Set the length in feet on G to one of the dimensions in inches on F, and against the other dimension in inches on J will be found the contents in cubic ft. on I.

Example.—What is the cubical contents of a block of stone 4 ft. 8 in. × 1 ft. 9¾ in. × 1 ft. 7½ in. ?

Place 4 ft. 8 in. on G to 21¾ on F, and against 19½ on J will be found 13⅜ cubic ft.

PROBLEM No. XXXIX.

To show the relative cost per extreme measure of Mahogany, as compared with Liverpool sale measure.

RULE.—Place the extreme contents in I to the price on J, and against the sale measure on I will be the cost actual on J.

Example.—Suppose I buy a lot of mahogany containing 1,325 ft. sale measure at 5½, and 1,600 extreme contents, what is the relative cost extreme measure ?

Place 16 on I to 5½d. on J, and against 13¼ on I is 4½d. + on J.

PROBLEM No. XL.

To calculate measurement Weight of Deals for Railway Carriage.

RULE.—As the St. 1 on H is to 50 on A, so is the measurement on H to required measurement Weight on A.

Example.—What is the measurement Weight of St. 1.1.20. ?

Place St. 1 on H to 50 on A, then against St. 1.1.20 on H will be found 71 (nearly) cwt. on A.

PUBLISHED WEEKLY, PRICE FOURPENCE.
Annual Subscription, 17s. 6d., post-free.

THE

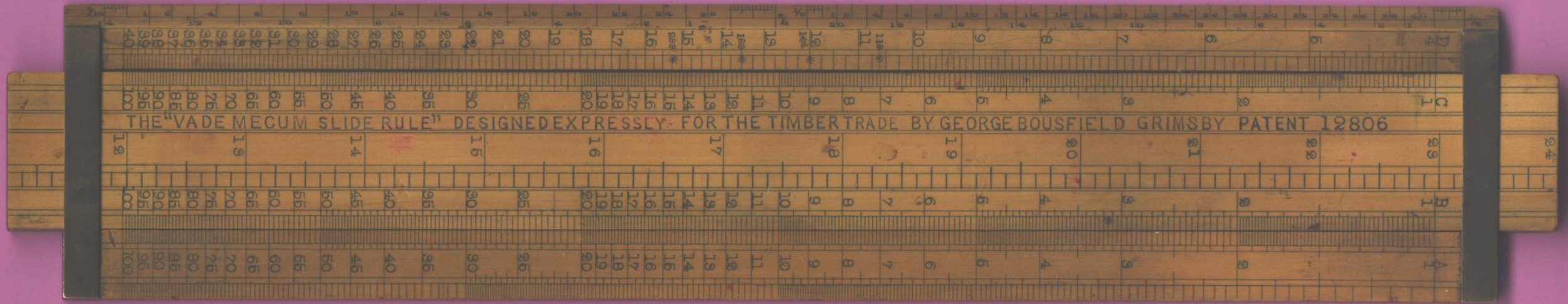
TIMBER TRADES JOURNAL

AND SAW MILL ADVERTISER.

AN INDEPENDENT NEWSPAPER

FOR FOREIGN, COLONIAL, AND ENGLISH TIMBER MERCHANTS, AND THE MAHOGANY AND HARDWOOD TRADES.

WILLIAM RIDER & SON, LTD., TIMBER TRADES JOURNAL OFFICE,
14, BARTHOLOMEW CLOSE, LONDON, E.C.


THE "VADE MECUM SLIDE RULE" DESIGNED EXPRESSLY FOR THE TIMBER TRADE BY GEORGE BOUSFIELD GRIMSBY PATENT 12806
D
C
B
A