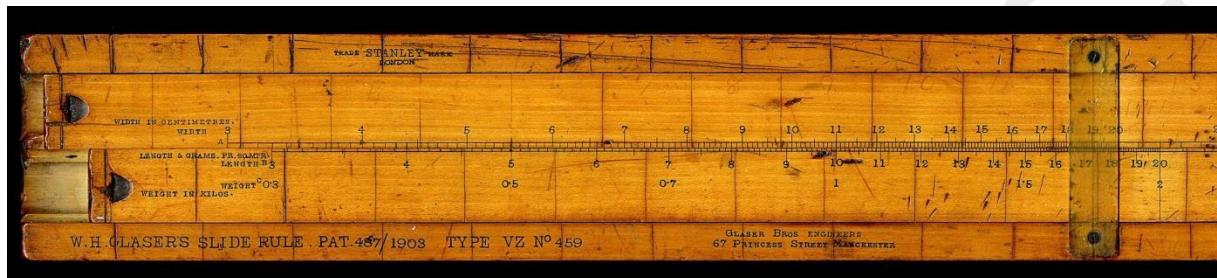
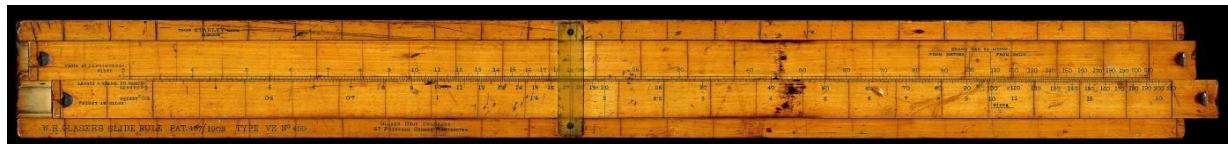


W.H. Glaser's textile conversion rule

Owner: **David Rance**



An early 20th century English wooden "oversized" (25 $\frac{1}{4}$ x 2 $\frac{1}{2}$ x $\frac{1}{2}$ inch) poly-slide simplex slide rule¹.

Purpose of rule:

Designed and patented by William Henry Glaser while still a student and living in Bradford, it converts British imperial or metric weights and measures into bulk square imperial or square metric equivalents for the textile-fabric trade.

Patent details:

Glaser secured a British and an American patent for his rule:

- **GB190300487A** issued 28th May, 1903.
- **US732935A** issued 7th July, 1903.

Material and construction:

- **Stock and slides:** satinwood solid frame single-sided construction with two horizontally adjacent single-sided satinwood slides.
- **Cursor:** translucent vertical plastic strip with a single black hairline.
- **Finishing:** (i) scales incised, (ii) lettering punched, (iii) gouged finger-holes at ends of each slide for setting the slides and (iv) two small screws left of centre fixing cursor plastic strip to the stock.

¹ High-resolution images are courtesy of the Otto van Poelje "photo lab".

Layout and scales:

The scales for converting the width, length and weight dimensions of a swatch of fabric into square metres or square yards are all on the two slides. Later versions had extra scales on the front face. On this variant just an inch scale was added by hand. Presumably this was done so the slide rule could "double up" as a ruler for measuring out lengths of fabric.

The upper slide has:

- two-cycle 3 - 210 *Width in centimetres*. logarithmic scale
- *Grams per sq. metre*. gauge marks for (i) from metres and (ii) from yards

The lower slide has:

- two-cycle 3 - 210 *Length & Grams pr. sq. mtr.* logarithmic scale
- single-cycle 0.3 - 20 *Weight in kilos*. logarithmic scale
- *Width* gauge mark

Maker and Retailer:

All the reported examples carry a "Glaser Bros ENGINEERS, Manchester" provenance. This suggests that Glaser set-up a manufacturing operation (addresses vary) in Manchester. The slide rule was briefly sold by STANLEY of London but probably only to around 1910.

Distinguishing features:

Besides its tactile "look and feel", layout and uncommon use of two slides, its most distinguishing feature is its innovative use of a fixed "fiducial" hairline. It is contra intuitive to have a fixed cursor but it does overcome the age old resetting problem with linear slide rules – i.e. neither slide has to extend roughly more than half its length past either end of the stock.

Other remarks:

This is an early version (fewer scales and simpler layout) of the Glaser's rule first reported by Bruce Williams² in 2002 and by Tom Wyman³ a year later. It has a much lower type/serial number: No. 459 versus No. 701/5 and No. 1006 respectfully. This example is closer to the original drawings found in the patent applications.

Intriguingly Glaser's US patent was cited 55 years later in a patent (US3402482A) granted to J.S. Rankin in September 1968 for a "*Mathematical Teaching Device*".

² "Poly-Slide Rules": Proceedings IM2002, October 2002, Pg. 17.

³ "Textile Slide Rules": JOS, Vol. 12, No. 1, Spring 2003, Pg. 8.