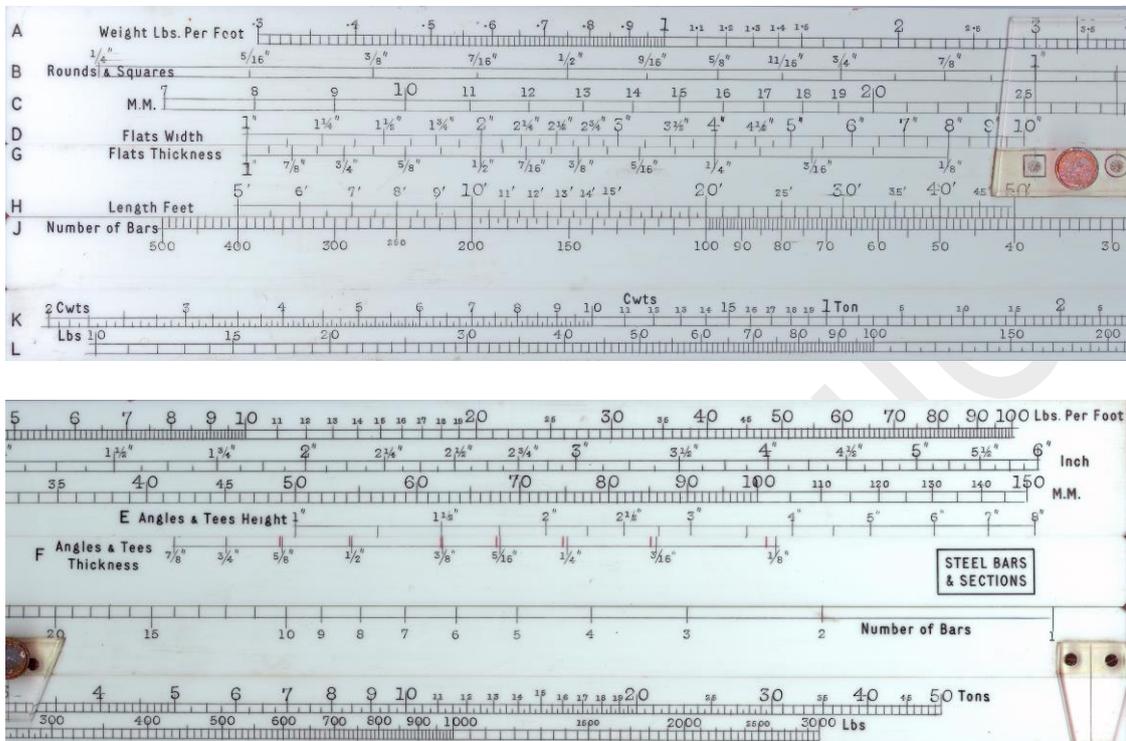


Desktop Poly-Slide Rule for Steel Bars & Sections

Owner: David G Rance

Pictures (left and right-hand ends only):



Purpose of the Slide Rule:

This rule was designed for the bygone age when imperial-based calculations were prevalent in the steel trade. That is a bygone age since 1980 for all countries except the United States of America, the Union of Myanmar (Burma) and the Republic of Liberia – three countries that still have to go metric.

Being based on logarithmic scales, slide rules were not suited to calculations involving fractions, imperial units or non-decimal currencies. The first slide rule (incorporating a mixture of special scales and gauge marks) specifically designed for Merchants working in fractions, imperial units or non-decimal currencies only came onto the market in 1913 - the Nestler "System Kaufman" model 40. Many manufacturers just settled for a conversion table glued or printed on the backs of their slide rules.

An extra peculiarity to steel bars and sections, and hence reflected in this slide rule, is their end-on profile. For example, a steel bar of a particular grade and length with a square profile weighs more than the same bar but with a round profile.

Dimensions:

- **Base:** 58 cm x 8 cm x 1 cm
- **Slides:** both 58 cm x 1.1 cm x 0.6 cm
- **Cursors:** all 3 plastic - 1 large with a brass knob and 3 hairlines in a fixed position on the top slide and 2 small (1 with a brass knob) with a single hairline both in a fixed position on the bottom slide

Material:

- **Stock:** plastic “Astralon-like” extremely thick high-quality white PVC
- **Slides:** two identically sized plastic “Astralon-like” high-quality white PVC tongue-and-grooved and mounted one above the other
- **Cursors:** (i) one large plastic fixed off-centre on the top slide
(ii) two small plastic fixed – one fixed off-centre and the other fixed at the right-hand end of the bottom slide
- **Finishing:** the printing (in black) is a form of screen printing straight onto the PVC stock and slides

Simplex layout and scales:

A solid frame rule - unexpectedly all eleven scales (A–L) are logarithmic and more surprisingly all but two of them are based on imperial units for length or mass.

- **Stock above the slides:**
 - **A** 0.3-100 **Weight Lbs. Per Foot** logarithmic scale
 - **B** ¼"-6" **Rounds & Squares** logarithmic scale
 - **C** 7-150 **M.M.** logarithmic scale
 - **D** 1"-10" **Flats Width** logarithmic scale
 - **E** 1"-8" **Angles & Tees Height** logarithmic scale
- **Top slide:**
 - **G** 1"-½" **Flats Thickness** logarithmic scale
 - **F** ⅞"-½"- " **Angles & Tees Thickness** logarithmic scale
 - **H** 5'-50' **Length Feet** logarithmic scale.
- **Bottom slide:**
 - **J** 500-1 **Number of Bars** logarithmic scale
- **Stock below the slides:**
 - **K** 0.1-50 **Tons** logarithmic scale
 - **L** 10-3000 **Lbs** logarithmic scale

Designer:

Nothing is known - although with nine imperial-based logarithmic scales for length and mass it was clearly a major, and possibly unrivalled, design feat.

Manufacturer:

Unknown - although there are certain similarities to the high-quality Mark IV/V Pilot Balloon slide rules made in the 1950's/1960's by UK manufacturer Blundell Harling. However, there is not a shred of evidence it was made by them. **Can anyone identify the maker?**

The first country to convert from imperial to metric was France in 1799. Over the next two centuries most other countries followed but it is still not universal – e.g. the U.S.A. has still to go metric. So without knowing the manufacturer and/or the country it was marketed in, the year of manufacture is sadly indeterminate. But given the use of PVC as its base material, it most probably dates from somewhere between 1950 and 1980.

Final remarks:

It is not known if a user manual ever existed and so given its unusual imperial nature, it is difficult to even speculate how the scales are supposed to interact or what calculations the slide rule can do.