PATENT SPECIFICATION 1,159,805

DRAWINGS ATTACHED.

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1,159,805

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COMPLETE SPECIFICATION.

Calculator.

We, S. & V. KAYE LIMITED, of 9 East Street, Brighton 1, Sussex, a British Company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to calculators and more particularly to a calculator for comparing prices or other parameters given in terms of different units, hereafter referred to as fractional form.

A common and simple case is when precharged goods are retailed in packets of different sizes, of which the prices are known. The problem is to reckon which provides the better value for money, i.e. which is cheaper per unit weight. While in the ensuing text prominence will be given to a comparator for dealing with this problem, it is to be understood that the same principles can be applied to other comparisons, particularly between measurements or parameters expressed in different systems of units, and that the invention is not intended to be limited to the one simple case discussed.

The invention consists in a calculator for comparing the values of parameters given in fractional form, comprising three relatively movable members bearing logarithmic scales, first and third members bearing scales which are graduated on the same absolute scale to represent the numerators of the fractional forms to be compared, and a second member bearing a scale which is graduated to represent the denominators and being located in relation to the first and third members in such a position as to enable the scales carried by the first and third members to be set against the scale carried by the second member, the said first and third members also being provided with directly comparable index marks which show when the scales carried by the second member, the index marks having associated markings to indicate which of the scales carried by the first and third members is further advanced with respect to the scale carried by the second member.

By this means, if the scales on the first and third members carry prices and the scale on the second member carries weights, or vice versa, a simple comparison may be obtained between the cost per unit weight of two packets of dissimilar sizes.

The members may be straight elements or discs.

The invention will be further described with reference to the accompanying drawing which is a plan view of a disc form of calculator according to the invention.

The drawing shows three discs 1, 2 and 3, eyeletted together for relative rotation about a common centre.

Disc 2 is preferably of transparent material. Discs 1 and 3 are marked about their circumferences with price graduations up to 12 in pence and shillings with such divisions as are practicable on the same logarithmic scale.

The scales are printed in different colours, e.g. red and green for the scales on disc 1 and 3 respectively.

Disc 2 is marked with a weight scale from 1 to 12, with such subdivisions as are practicable. The markings are in red and green as they abut the scales and discs 1 and 3 respectively.

Disc 3 has an arcuate aperture 5 and an index mark in the form of a pair of arrows 6 which are aligned with an index line 7 marked on the disc 1 when the scales on these two discs are angularly coincident. The line 7 and an adjacent annular zone of the disc 1 are visible through the aperture 5 since the disc 2 is

[*Price* 4*s.* 6*d.*]

transparent. Adjacent the line 7 in this annular zone there are printed suitable legends to indicate which scale represents the package having better value.

To carry out a comparison between two packages, the weight of one package is matched with the corresponding price on the discs 1 and 2 (red scales) and the disc 3 is rotated until the weight of the second package is matched against the price on the scales on discs 3 and 2 (green scales). The arrow 6 then indicates which package represents the better value.

In a zone opposite the index line 7 on the disc 1 there may be printed the legend 'recheck' since if the arrow 6 eventually points to this zone there is a possibility of confusion as to which of the packages represents the better value. This arises owing to possible confusion from the use of opposite ends of one of the scales. Normally there is no doubt as to which represents the cheaper value in this type of operation but for clear distinction the user is then advised to recheck to ensure. For example with the outer scale set for one penny per ounce the inner scale takes the arrow 6 into the recheck zone for readings of twelve ounces for 3d or one ounce for 3½d. In these instances, it is easy to see which is the better value, but the housewife is not normally presented with such a simple example and may come to rely too much on the calculator, if such a warning is not given of the possibility of ambiguity.

Various modifications may be made within the scope of the invention. Thus the members bearing the scales may be of rectilinear form. Also the disc 2 need not be wholly transparent but need only have an annular or part annular transparent zone. Also the arrow 6 and index line 7 could be interchanged so as to appear on the discs 1 and 3 respectively.

Further, the scales may be decimal rather than the duo decimal scales illustrated and the gaps between the ends of the scales may be avoided by choosing the spacing of the graduations such that the scales occupy the complete 360° of each disc.

In order to reduce the probability of ambiguity by removing the possibility of the ends of the scales being confused, the inner and outer scales may be marked over a reduced zone of the periphery of the discs (or sectors of discs), e.g. over less than 180°. The intermediate scale may then incorporate a double scale e.g. 1 to 100 or more instead of 1 to 10 or 12 if desired.

Further, it is possible for the monetary scale to be as the intermediate disc and the quantitative scales as the inner and outer discs.

WHAT WE CLAIM IS:—

1. A calculator for comparing the values of parameters given in fractional form, comprising three relatively movable members bearing logarithmic scales, first and third members bearing scales which are graduated on the same absolute scale to represent the numerators of the fractional forms to be compared, and a second member bearing a scale which is graduated to represent the denominators and being located in relation to the first and third members in such a position as to enable the scales carried by the first and third members to be set against the scale carried by the second member, the said first and third members also being provided with directly comparable index marks which show when the scales carried by the first and third members are identically located with respect to the scale carried by the second member, the index marks having associated marks to indicate which of the scales carried by the first and third members is further advanced with respect to the scale carried by the second member.

2. A calculator as claimed in claim 1, in which the scales on the first and third members are graduated in prices and the scale on the second member in weights, or *vice versa*.

3. A calculator as claimed in claim 1 or 2, in which the members are concentric discs.

4. A calculator as claimed in claim 3, in which the second member is a transparent disc for direct comparison of the index marks which are on the first and third scales through the transparent disc.

5. A calculator for comparing parameters given in fractional form substantially as hereinbefore described with reference to the accompanying drawing.

MARKS & CLERK.

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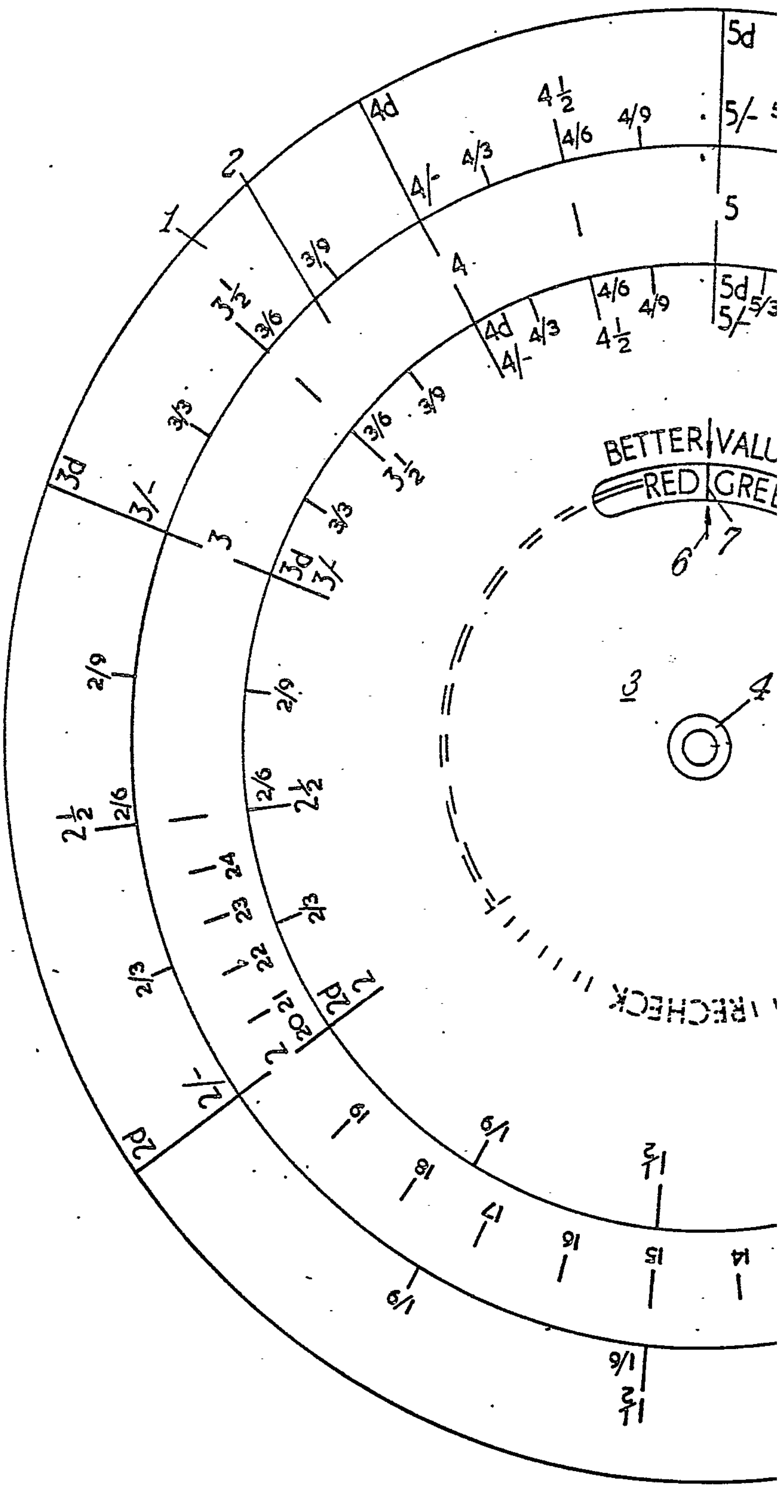
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1159805 COMPLETE SPECIFICATION

1 SHEET

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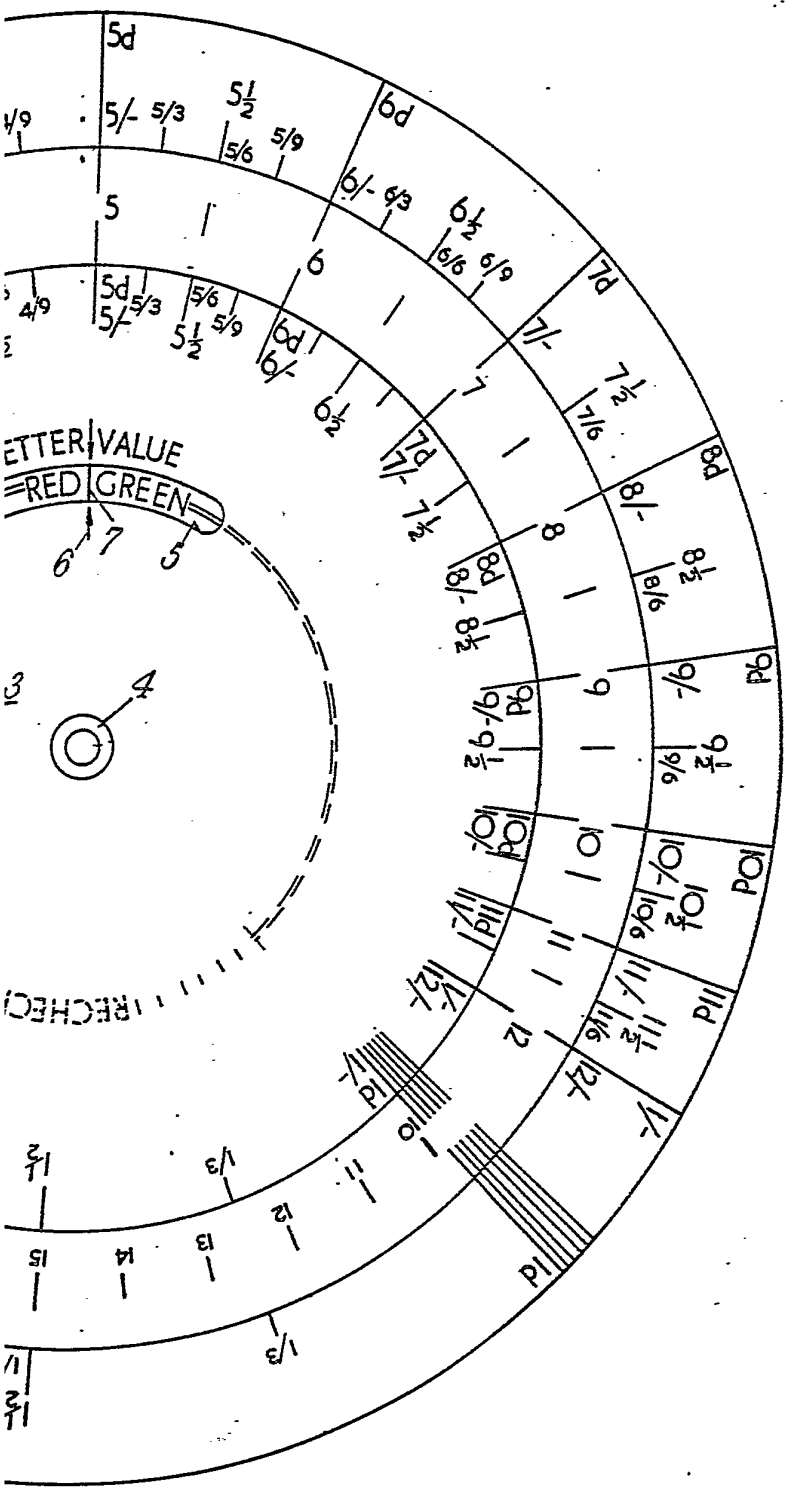

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