This is to Certify that the Idea, Discovery, Invention or Formula

of Mr. L. Bernstein.

in connection with Telephone Dialling Attachment

has been duly Registered in the Records of

IDEAS MARKETING POOL
LIMITED

This 27th *day of* April *19* 64

Registered No. 64/4/201/C20

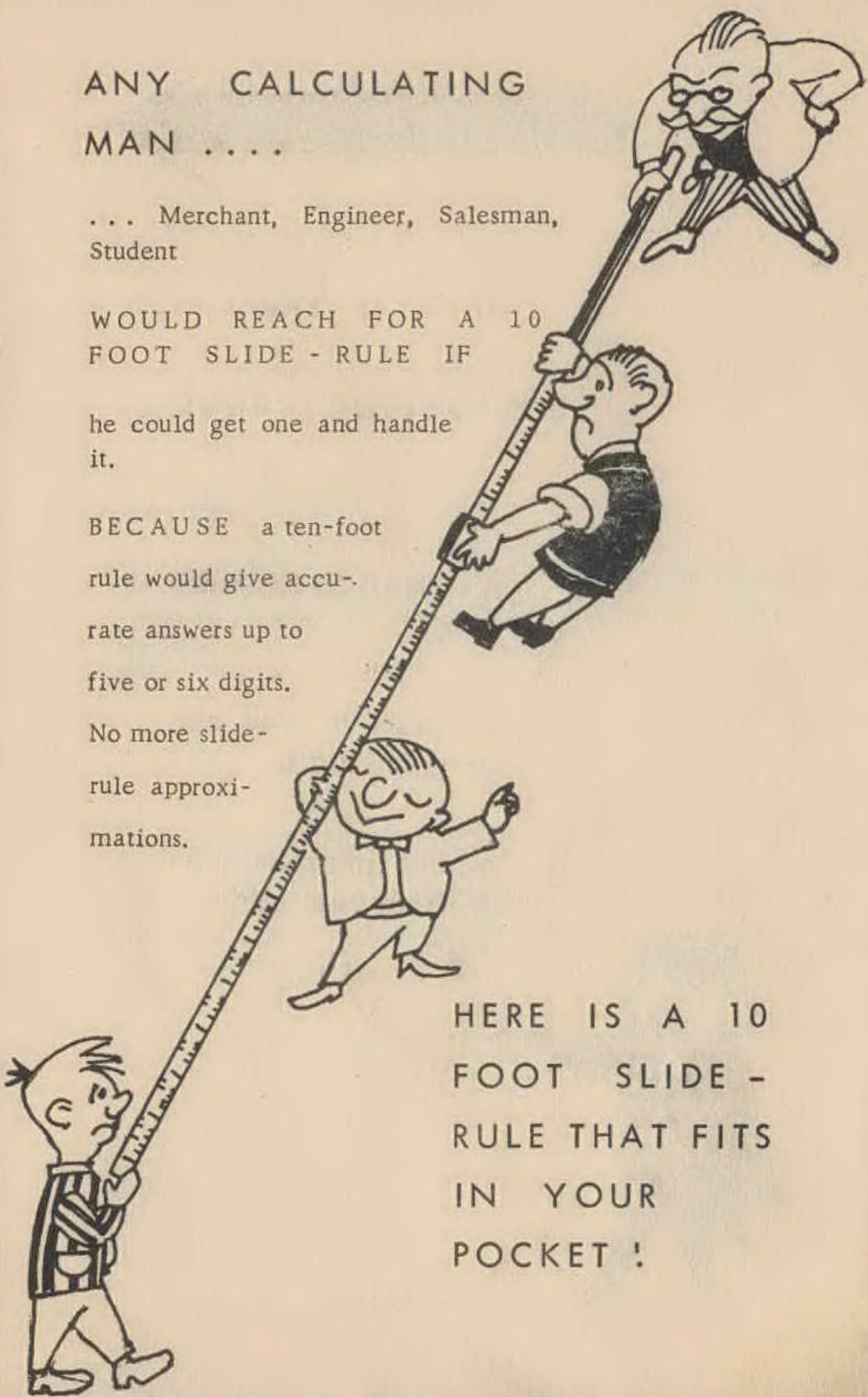
ANY CALCULATING MAN . . . .

. . . Merchant, Engineer, Salesman, Student

WOULD REACH FOR A 10 FOOT SLIDE - RULE IF

he could get one and handle it.

BECAUSE a ten-foot rule would give accu-. rate answers up to five or six digits. No more slide-rule approxi-mations.



HERE IS A 10 FOOT SLIDE - RULE THAT FITS IN YOUR POCKET !

this is the

LONGSLIDE RULE

* less than 10 INCHES long

* accurate to five, six or more digits

* quick! and simple as the simplest slide-rule.

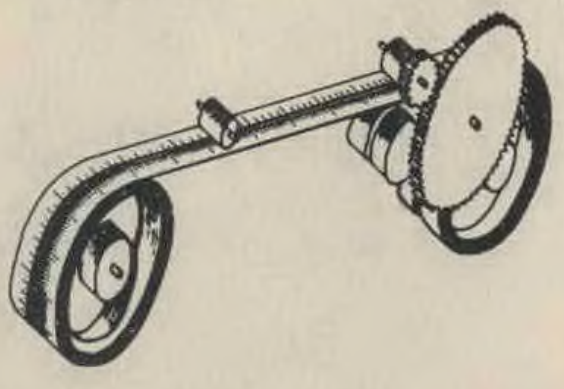
ITS PRINCIPLE

* Two flexible non-stretching tapes, as long as you fancy - each graduated on a finely-divided logarithmic scale.

* Each tape winds rapidly under a fixed glass visor with hair-line marking, onto a spool at either end.

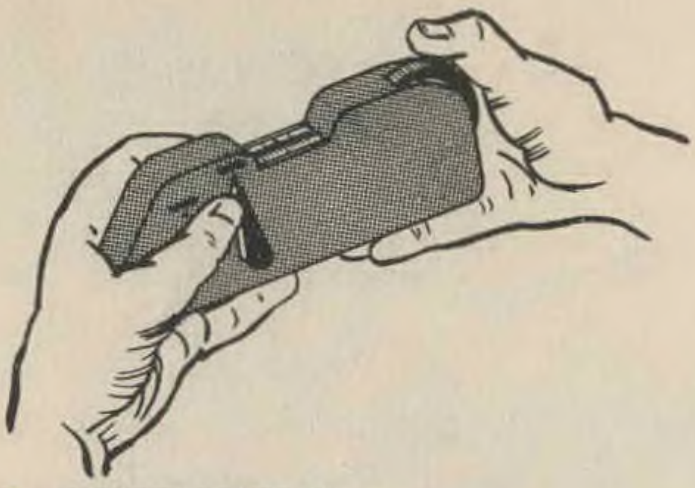
* Each tape locks in any position, and moves independently of the other or in unison with it.

ITS MECHANISM



* A milled-edge wheel or winding-handle is geared to rotate a single capstan in either direction.

* Switches on either side of the rule have two positions : 'WIND' brings the corresponding tape into firm contact with the capstan; 'LOCK' holds it in position free of the capstan, to avoid natural spring-back.



ITS OPERATION

EXAMPLE: MULTIPLYING

* The near switch is moved to 'WIND'; the near tape is moved until the multiplier is under the hair-line; the switch is moved to 'LOCK'.

* The far switch is moved to 'WIND'; the far tape is moved until the digit 1 is under the hair-line.

* The near switch is moved back to 'WIND'; both tapes are moved in unison until the multiplicand on the far tape is under the hair-line.

* The answer is read on the near tape at the hair-line.

Essentially, this is normal slide-rule operating procedure.

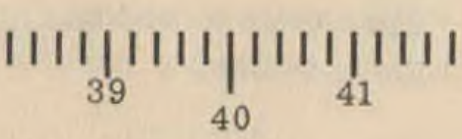
In the same way, division, squaring, square-roots, etc., follow essentially on normal slide-rule methods.

SPECIAL FEATURES OF THE LONGSLIDE RULE

* With a casing suitably waisted at the visor position, tapes may be graduated on both sides, permitting different scales - for example, logarithmic and trigonometric - on a single rule. The scale on the reverse side can be read through a second visor by turning the rule upside down.

* Simple mechanical stops fitted to the tapes will ensure that tapes stop precisely when either the digit 1 or digit 10 comes directly under the hair-line. This part of every sliderule operation can thus be done 'blind'.

* There need be no trial-and-error-testing of which way to move the far tape - whether to digit 1 or digit 10. The near tape will carry an indicator of the maximum extension possible when the second tape is brought into the calculation : thus



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THE LONGSLIDE RULE IS A PRECISION INSTRUMENT

Its precision depends on two factors only - accurate graduation of the tape scales; and the care of the user.

It does NOT depend on the casing, which could be either plastic or metal.

IT WILL BE EASILY READ

The width of tapes is restricted only by considerations of appearance. Bolder, clearer marking than on conventional sliderules will make for easier reading.

And the longer the tape, the clearer the reading.

IT WILL OPEN NEW FIELDS

Because it is accurate to five or six digits, it will be used in many fields where normal sliderules are useless because they rely on approximations -

in high-school mathematics; in trade calculations of capacities, volumes, discounts, percentages; in quantity surveying, accounting and engineering.

WHEREVER A READY-RECKONER IS USED -

the 'Longslide' rule
does it quicker.

WHEREVER LOGARITHMS ARE USED -

the 'Longslide' rule
does it more easily.

WHEREVER A SLIDE-RULE IS USED -

the 'Longslide' rule
does it more accurately.

WHEREVER A CALCULATING MACHINE IS USED -

the 'Longslide' rule
does it cheaper.

L. BERNSTEIN, M. I. A.
154 Regent Street,
Observatory,
JOHANNESBURG.

Pat. appl. 63/2268

June, 1963.

Belle-Litho

REPORT ON NOVELTY SEARCH

RELATING TO SLIDE RULES.

IN ACCORDANCE with your instructions we have carried out a search through the records of British Patent Specifications in order to test the novelty of the various feature of the longslide rule described and illustrated in the photo-copies of a brochure sent us with your instructions.

The longslide rule has been developed by L. Bernstein, M.I.A. 154, Regent Street, Observatory, Johannesburg and forms the basis of South African Patent Application No. 63/2268. As far as is ascertainable from the information given in the brochure the various features of the longslide rule are as follows:-

1. Two flexible non-stretching tapes.
2. Each tape winds rapidly under a fixed glass visor with hair-line marking on to a spool at either end.
3. Each tape locks in any position and moves independently of the other or in unison with it.
4. A milled-edge wheel or winding handle is geared to rotate a single capstan in either direction.
5. Switches on either side of the rule have two positions: "wind" brings the corresponding tape into firm contact with the capstan, "lock" holds it in position free of the capstan.
6. Tapes may be graduated on both sides, permitting different scales on a single rule.

As a result of our search we have brought to light British Patent Specification Nos. 617,596 and 547,001 which would appear to anticipate most of the above features of

the longslide rule and also we have brought to light a number of further specifications which are relevant with regard to various aspects of the rule.

Our search has covered the period from 1st January, 1913 to date (the latest available specification being No. 943,853) and has been carried out under the following headings of the Patent Classification System:-

Division G4. Heading B.

Mechanical calculating apparatus-

. mechanical calculating apparatus etc.

. . slide rules and other logatithmic computing apparatus-

B5F . . . cursors and index arms special constructions and graduations of.

B5C . . . cylindrical forms.

B5B . . . flat straight forms.

B5D . . . forms, unclassified.

As stated above our search has brought to light a number of specifications which would appear to be of relevance having regard to various features of the invention, and each of the features with the relevant specifications are listed below:-

1. Two flexible non-stretching tapes.
   Specifications Nos. 617,596; 542,940; 447,001; 195,644; 232,150; 354,985 and 147,285.

2. Each tape winds rapidly under a fixed glass visor with a hair-line marking on to a spool at either end.
   Specification Nos. 617,596; 447,001; 232,150; 354,985 and 195,644.

3. Each tape locks in any position and moves independently of the other or in unison with it.
   Specification Nos. 617,596; 542,940; 447,001; 354,985; 232,150 and 195,644.

4. A milled-edge wheel or winding handle is geared to rotate a single capstan in either direction.
   Although we were unable to locate any British Patent Specification which would appear to anticipate this feature the following specifications would appear to be of interest:-
   Specification Nos. 617,596; 232,150.

5. Switches on either side of the rule have two positions: "wind" brings the corresponding tape into firm contact with the capstan, "lock" holds it in position free of the capstan.
As with feature No. 4, we were unable to locate any British Patent Specifications which would appear to anticipate this feature of the longslide rule however the following specifications are of interest:-
Specification Nos. 617,596; 447,001 and 354,985.

6. Tapes may be graduated on both sides, permitting different scales on a single rule.
Specification Nos. 617,596; 484,852; 412,312 and 147,285.

Details of the most relevant specifications mentioned above are as follows:-

British Patent No. 617,596. Lapsed. Andre Philippe Clouex.
This invention relates to calculating appliances which comprise ribbons wound upon drums and graduated on both sides and describes the calculating apparatus the construction of which is as follows:-
a) Two drums mounted on shafts and capable of rotating independently of the shafts,
b) two further drums mounted on shafts and capable of rotating independently; the axis of these drums is parallel to the axis of the just two drums,
c) two flexible ribbons bearing on both their faces the divisions which are necessary for the calculations to be effected; the ribbons are wound on the drums and passed between guide rolls,
d) two magnifying glasses, provided at the opposite reading windows, each bearing a central datum stroke,
e) the co-axial pairs of drums may rotate in the same or in opposite directions,
f) separate driving devices are provided for each pair of drums and each of these driving devices controls the displacement of one of the ribbons through a pin wheel, the pins engage holes provided along the edges of the said ribbons. The rotation of each of the pin wheels is controlled by an outer wheel, there being an outer wheel for each pair of drums and ribbon. However the movements of the two ribbons can be rendered interdependent by means of a clutching device coupling together the two pin wheels.

British Patent No. 542,940. Lapsed. Robert A.A. Willens.
This invention relates to calculating devices and is particularly concerned with devices for solving problems in the selection of change-gear wheels in machine tools. Flexible ribbons are marked in accordance with every possible valve of two sub-functions of the variables to be selected and are presented in stationary juxtaposition. For the purpose of examining the juxtaposed scales it is convenient to make the scales opaque with transparent scale marks. Each ribbon can be adjusted independently of the other and both can be moved together.

British Patent No. 447,001. William Dubilier.
This invention relates to slide rules comprising scales consisting of endless strips of flexible material having their ends wound on to rolls. The scales are wound up and held within coil springs disposed at opposite ends of the casing. The flexible strips carrying the scales are wound in either direction by a pair of sprockets having teeth engaging perforations in the strip each strip can be moved independently of the other by means of separate sprockets turned by knobs situated outside the casing or they can be moved in unison by means of coupled sprockets turned by a third knob.

British Patent No. 232,150. Herbert Fuss.
This specification relates to a logarithmic calculating apparatus in which bands are provided with logarithmic graduations, the bands run over a set of drums arranged close together. The bands may be driven by pin wheels the pins of which engage perforations in the bands and the bands may be moved independently or a coupling device may be provided whereby the driving rolls may be moved in unison or may be moved separately.

British Patent No. 195,644. Henri-Thomas-Marie Le Sort.
This specification relates toimprovements in and relating to calculating apparatus for evaluating expressions involving a number of variables. The tape comprises a film provided with equidistant perforations, wound on two reels and is displaced by toothed wheels which are connected to the element to be set or controlled. A scale is obtained photographically on the film and the film is unwound or passed in front of an aperture carrying an index. Where a plurality of films are employed each can be displaced with or relative to the other.

British Patent No. 354,985. Adolf Schmid.
This specification relates to a device for mechanically ascertaining the number of days between two dates in the calender year and consists of two rollers attached to shafts rotatably mounted in the two side walls of a casing and in to bearing plates. Carried over these rollers are two bands of sheet steel or celluloid on which are inscribed the days of the calender year. The bands are perforated along their edges and conveyor rollers are provided with two peripheral rows of teeth which are adapted to engage in these perforations. Rotation of each roller is effected by means of hand cranks and each can be operated independently of the other or one crank can operate both bands when a lever operating a locking mechanism is in the "engage" position.

British Patent No. 147,285. Stanley P. Thompson.
This invention relates to an interest computing machine comprising a flexible web wound on to a drum and having on it all the necesary interest figures which can be viewed through a series of apertures in the casing. The web can be printed with figures on both sides, so that by reversing the casing, both sides may be employed and a greater range of interest dates may be used.

The following further specifications the numbers of which are mentioned above are of interest and details of these cases are as follows:-

British Patent No. 484,852. Walter Henry Edridge.
Improvements relating to combined logarithmic calculating and linear measurement scales or scales having equi-distant graduations.

British Patent No. 412,312. Otto Brachvogal.
Improvements in combined tape measures and slide rules.

British Patent No. 512,729. W. J. Barker.
Improvements in or relating to apparatus for calculating the cost of concrete and like mixes.

Please note that the information given concerning the status of the above mentioned Patents has been obtained from the Renewal Fee Registers and not from the Register of Patents.

By way of summary therefore on this investigation we have been able to show that most of the features of the longslide rule as disclosed in the photo-copy sent us with your instructions would appear to be lacking in novelty and details of the relevant cases brought to light by our investigation are given above.

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Collection Name: Hilda and Rusty BERNSTEIN Papers, 1931-2006

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