Jan. 14, 1941. C. A. BROWN 2,228,554

ABACUS

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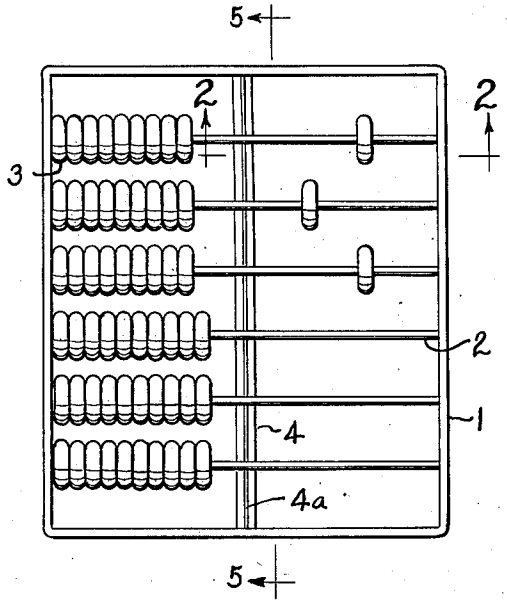
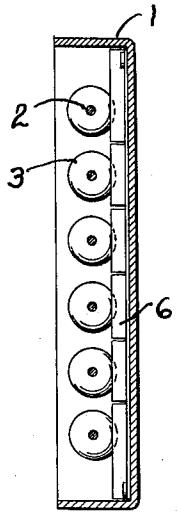


Fig. 1.



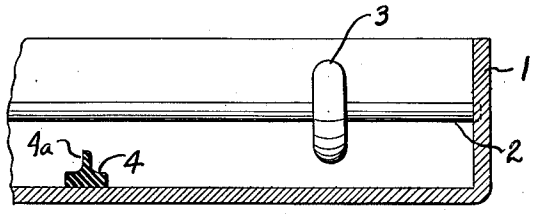


Fig. 2.

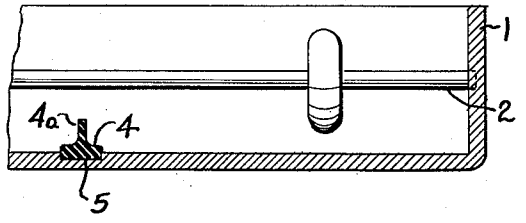


Fig. 3.

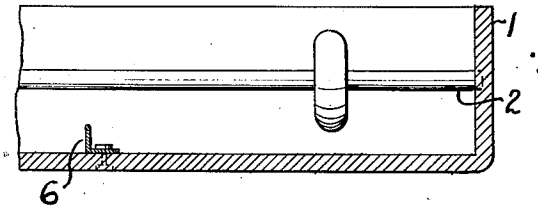


Fig. 4.

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ABACUS

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4 Claims. (Cl. 35—33)

This invention relates to an abacus.

An object of the invention is to provide an abacus adapted to be used in calculation of arithmetical problems by the use of movable counters and embodies also separating means whereby the counters may be maintained in a selected zone until positively moved to another zone.

The counters may be of any selected material and may be mounted to move along guides of any selected construction.

A further object of the invention is to provide a device of the character described, specially designed for use in making calculations, keeping scores or for the purpose of making various combinations of figures for calculation.

The device is of such construction that the counters moved from one zone to another, in making scores, keeping tallies or calculations will be maintained in said zone but may be, when desired, moved back to home position in the other zone.

Another object of the invention is to provide a device of the character described that is of a simple construction, may be cheaply produced, is readily portable and may be easily handled.

With the above and other objects in view, the invention has particular relation to certain novel features of construction, operation and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawing, wherein:

Figure 1 shows a plan view of a preferred form of the device.

Figure 2 shows an enlarged fragmentary sectional view thereof taken on the line 2—2 of Figure 1.

Figure 3 shows an enlarged fragmentary sectional view of a slightly modified form of the device.

Figure 4 shows an enlarged fragmentary view showing another type of separator, and

Figure 5 shows a longitudinal sectional view taken on the line 5—5 of Figure 1, illustrating the type of separator shown in Figure 4.

Referring now more particularly to the drawing wherein like numerals of reference designate the same parts in each of the figures, the numeral 1 designates a frame which in the present illustration, is box-like in form. This frame, however, may be of any selected form and size or material. The frame is provided with a plurality of counter guides 2. As illustrated these guides are in the form of transverse rods or wires whose ends are anchored to opposite sides of the frame. On these guides are the series of counters 3. These counters may be of any selected form or material. Preferably the series are of different colors. As illustrated, they are disc-like in form although they may be spool-shaped, spherical or of any other desired shape.

The frame is of a width such that the series of counters may be assembled at one side of the frame with sufficient space for their movement to the other side of the frame.

The frame may be separated into two zones by any suitable type of separator 4. As illustrated in Figures 1, 2 and 3, this separator may be formed of resilient material, such as rubber, extending at right angles to the guides from end to end of the frame between said zones, and which has a wide base which may be fastened to the bottom of the frame by an adhesive or it may be securely inset into a groove 5 in the bottom of the frame. It has a flexible upstanding rib 4a as shown. This rib has sufficient resistance to prevent the movement of a counter from one zone to the other zone unless pressure is applied to the counter, in which latter case the rib will yield to permit the counter to move from one zone to the other.

Another type of separator is illustrated in Figures 4 and 5 and comprises an upstanding flexible fin 6 preferably formed of metal and suitably secured to the bottom of the frame. It is transversely slitted between the series of counters as shown in Figure 5 so as to make it more yieldable. It is of sufficient rigidity to maintain the counters in a zone when placed therein and of sufficient flexibility to permit a counter to be readily moved, upon application of pressure thereto, from one zone to another.

The separator will be employed so as to maintain a counter in the zone in which it is placed until it is moved into the other zone by the application of force. The device will often be used while making a number of purchases in which case the counters of the series will all be moved into one zone on one side of the separator. As an article is purchased a counter or counters representing the value thereof will be moved across the separator to the other zone in the manner illustrated in Figure 1, where they will remain until the end of the transaction at which time the values of the counters so moved may be totaled up so as to indicate the total amount of the purchase made, thus avoiding mistakes. Upon completion of the transaction, the counters may be moved back to home position or in the other zone. In a similar manner, scores, or tallies, may be kept.

What I claim is:

1. An abacus comprising a frame, a plurality of guides thereon, a series of counters movable along each guide resilient, readily yieldable, separating means dividing the frame into zones, said separating means being formed with a rib which extends into the path of the counters to permit movement of the counters from one zone to another zone only under the influence of pressure.

2. An abacus comprising a frame, a plurality of guides thereon, a series of counters movable along each guide, resilient yieldable separating means dividing the frame into zones, said separating means extending into the path of the counters to impede the movement of the counters from one zone to another zone and being yieldable to allow such movement in response to pressure.

3. An abacus comprising a frame, a plurality of parallel spaced rods forming guides mounted on the frame, a series of counters mounted on each rod, a strip of resilient yieldable material mounted on the frame transversely of said rods to separate the frame into zones, said separating strip extending into the path of the counters to yieldably restrain movement of the counters from one zone to the other zone.

4. An abacus comprising a frame, a plurality of parallel spaced rods forming guides mounted on the frame, a series of counters mounted on each rod, a separating means mounted on the frame transversely of said rods to separate the frame into zones, said separating means being a strip of rubber formed with a rib extending into the path of the counters to yieldably restrain movement of the counters from one zone to the other zone.

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