No. 732,072. PATENTED JUNE 30, 1903.

H. L. HASKELL & J. A. MITCHELL.

COMBINED RULER AND ADDING DEVICE.

APPLICATION FILED OCT. 3, 1901.

NO MODEL.

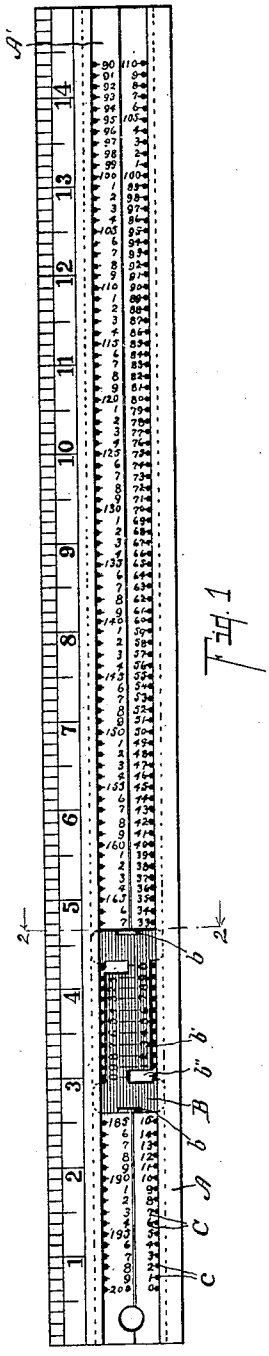


Fig. 1

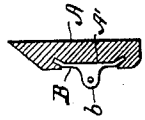


Fig. 2

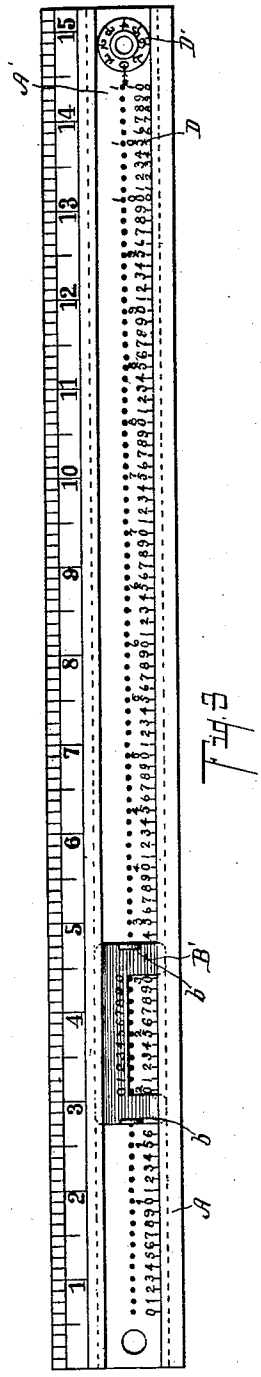


Fig. 3

Witnesses:

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No. 732,072. Patented June 30, 1903.

UNITED STATES PATENT OFFICE.

HENRY L. HASKELL AND JOHN A. MITCHELL, OF LUDINGTON, MICHIGAN.

COMBINED RULER AND ADDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 732,072, dated June 30, 1903.

Application filed October 3, 1901. Serial No. 77,477. (No model.)

To all whom it may concern:

Be it known that we, HENRY L. HASKELL and JOHN A. MITCHELL, citizens of the United States, residing at the city of Ludington, in the county of Mason and State of Michigan, have invented certain new and useful Improvements in a Combined Ruler and Adding Device, of which the following is a specification.

This invention relates to improvements in combined rulers and adding devices.

The objects of the invention are, first, to provide an adding device which shall be adapted to be combined with a ruler or other instrument and not interfere with their use in any manner; second, to provide an adding device which shall be simple and easy to operate and economical to manufacture.

Further objects will definitely appear in the detailed description to follow.

We accomplish the objects of our invention by the devices and means described in this specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of our invention is fully illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a detail plan view of a combined ruler and adding device embodying the features of our invention. Fig. 2 is a cross-sectional view of the same, taken on line 2 2 of Fig. 1. Fig. 3 is a detail plan view of a modified form of our invention.

In the drawings the sectional view is taken looking in the direction of the little arrows at the end of the section-line, and similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A is a ruler, of wood or other suitable material. In the upper surface of this ruler A is a groove A′. On the bottom of this groove are numbers C, printed in columns, the right-hand column in Fig. 1 of the drawings containing the numbers from "0" to "110," consecutively, and the left-hand column numbers "90" to "200," consecutively. The numbers in the right-hand column are numbered up, while those in the left are numbered down. Opposite each number is a hole or spot *c*. We provide a slide B, having upwardly-projecting lugs or ears *b*, which is adapted to reciprocate in the groove A′. This slide is cut away at each side for a space equal to eleven numbers in the groove. It also has transverse slots *b*″ on each side opening into the slots or cut-away portions *b*′ at opposite ends. On the face of the slide on each side and adjacent to the cut-away portions *b*′ and numbered in directions to correspond with the numbers in the groove are the numbers "1," "2," "3," "4," "5," "6," "7," "8," "9," "0." These numbers are spaced to correspond with the numbers in the groove.

We have described the mechanism in detail and will now describe its operation.

In use the slide B is moved until the number to which it is desired to add appears in the slot *b*″. A pointer is then placed in the hole *c* opposite the figure on the slide which it is desired to add and the slide pushed up to the pointer, when the sum will appear through the slot *b*″. The slots *b* are of such length that the ends coming in contact with the pointer serve as stops for the slide. The numbers exceeding one hundred at the top of the right-hand column and those below one hundred at the foot of the left-hand column are for the purpose of transferring from one column to the other—as, for example, a sum is to be added to ninety-five which will carry it up into the hundreds, the operation is transferred to the left-hand column, the slot in the slide B on the left-hand side will be at "95" and continued in that column. The operation of the modified structure shown in Fig. 3 is the same. A set of figures D is provided to assist in keeping the record of the hundreds, or a counter D′ is provided to keep the record of the same. The same consists of a numbered disk with pointer, as shown. It is apparent that this may be used with the structure shown in Fig. 1.

We have described our invention in detail in the form which we believe to be the most convenient to use and economical to manufacture; but we are aware, however, that it is capable of considerable variation without departing from our invention.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an adding device, the combination of a body A, having a groove therein; consecutive numbers in columns in said groove; and a slide B provided with suitable stops adapted to reciprocate in said groove, having consecutive numbers thereon spaced to correspond with the numbers in said groove, for the purpose specified.

2. In a combination-ruler and adding device, the body portion A, having a groove therein; consecutive numbers in a column on said body portion; and a slide provided with suitable stops adapted to reciprocate in said groove, having consecutive numbers thereon spaced to correspond with the numbers on said body portion, for the purpose specified.

In witness whereof we have hereunto set our hands and seals in the presence of two witnesses.

HENRY L. HASKELL. [L. S.]
JOHN A. MITCHELL. [L. S.]

Witnesses:
ARTHUR M. JOHNSON,
EDITH S. DECKER.