June 10, 1952 S. H. SVENSSON 2,600,084

INSTRUCTIONAL DEVICE FOR CALCULATING

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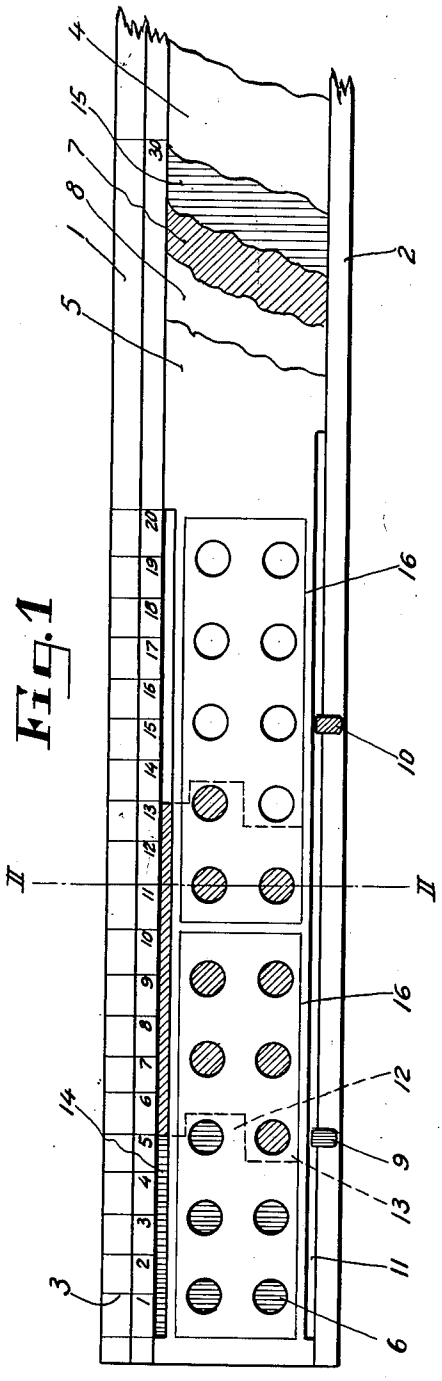


Fig. 1

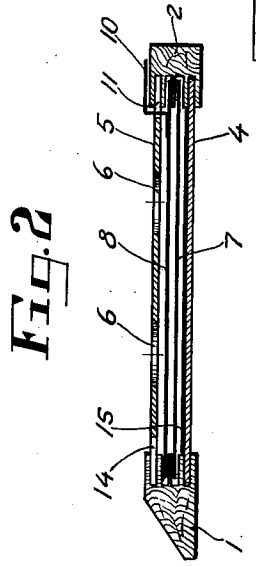


Fig. 2

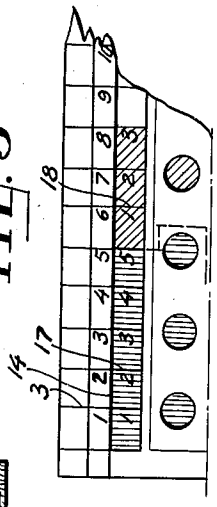


Fig. 3

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INSTRUCTIONAL DEVICE FOR CALCULATING

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2 Claims. (Cl. 35—31)

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This invention relates to improvements in devices for illustrating and teaching the elementary technic of calculating, and the object of the invention is to provide a device of said kind which is particularly suitable for use in instructing children in the primary school stage.

The invention will be explained more clearly in the following description, reference being made to the accompanying drawing showing, by way of example, two embodiments of the invention.

Fig. 1 shows a plan view of an instructional device constructed in accordance with the invention.

Fig. 2 is a section on line II—II in Fig. 1.

Fig. 3 shows a modified performance of a detail in Fig. 1.

As will be seen from the figures the instructional device comprises two strips 1 and 2, strip 1 being provided with a scale 3. To the strips 1 and 2 are attached two plates 4 and 5, plate 5 being provided with apertures or holes 6 arranged in two rows. Between the plates 4 and 5 are slidably provided two further plates 7 and 8, each of them being provided with an operating member 9 and 10 respectively, said members protruding through a slot 11 provided in the upper plate 5. The left end, as shown in Fig. 1, of each plate 7 and 8 is provided with a recess 12 and a projecting tongue 13 in such a manner that the plate in certain positions exposes a number of holes in the upper row of holes, which number by one unit exceeds the number of holes exposed in the lower row, while in other setting positions the number of holes exposed in the two rows is equal.

Immediately adjacent to the strip 1 the plate 5 is provided with a slot 14 in which the end margins of the plates 7 and 8 are visible.

The lower, fixed plate 4 is provided with a covering layer of a material the colour of which differs from the colour of plate 7, the colour of said last-mentioned plate in turn also differing from the colour of plate 8 and the upper surface of plate 5. For instance, the layer 15 may be red and plate 7 green, whilst plate 8 and the upper surface of plate 5 are white.

In the embodiment shown the holes 6 are divided into two groups comprising ten holes in each group, said groups being marked by borderlines 16. These groups, consequently, are easy to recognize. Now, if, as for instance in the example shown, it is desired to illustrate the addition 5+8, plate 7 is set in such a manner that its edge visible in the slot 14 coincides with line 5 of the scale 3, five holes being exposed within

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the left border 16. The holes of said border will then appear in a red colour. Due to the location of the operating members 9 and 10 the plate 8, upon this primary displacement, will be taken along with the movement to the right from the original position which is assumed to be the left end position. Thereafter plate 8 is moved, thereby exposing eight further holes, five of them lying within the left border 16 and three of them within the right border 16, the end margin of plate 8, which is visible in the slot 14, being located close to line 13 of scale 3. The eight last exposed holes then appear in a green colour.

According to Fig. 3 the covering layer 15 is provided with a scale 17 appearing in the slot 14, which scale agrees with the scale 3 on the strip 1. Further, in a corresponding manner, the plate 7 is provided with a scale 18, so that, for instance, when carrying out addition of the numbers 5 and 3 these two numbers appear in the slot 14 whilst the sum may be read on scale 3.

It will readily be seen that the device also can be used for illustrating subtraction. If, as in the embodiment shown, the device is constructed in the form of a rule, obviously it will be convenient to use on scale 3 a graduation in measure of length. Instead of using different colours on the plates 4, 7 and 8 they may be provided with different patterns or may in any other suitable manner be made to distinguish from each other.

What I claim is:

1. A device for instructing adding and subtracting comprising two spaced-apart superposed plates secured to one another, the upper of said plates being provided with apertures, two additional superposed plates disposed between the first-mentioned two plates, said additional plates being slidable relative to each other as well as relative to the two first-mentioned plates and having surface appearances differing from each other and being adapted upon slidably moving to expose the subjacent plate to view through varying numbers of said apertures, and the lower of the two first-mentioned plates having a surface appearance different from that of the other plates, so that upon slidably moving the intermediate plates relative to each other and relative to the two first-mentioned plates the apertures through which the subjacent plates are exposed to view are divided into two groups having appearances differing from each other, the plates being provided with a scale for reading the sum of the apertures of the two groups.

2. A device for instructing adding and subtracting comprising two spaced-apart superposed

plates rigidly secured to each other, the upper of said plates being provided with holes, two additional superposed plates being provided between the two first-mentioned plates, said additional plates being slidable with respect to one another and also with respect to the two first-mentioned plates and having different surface appearances with respect to each other and being adapted upon slidably moving to expose the subjacent plates to view through varying numbers of the said holes, the lower of the two first-mentioned plates having a surface appearance differing from that of the other plates, so that, upon slidably moving the intermediate plates relative to each other and relative to the two first-mentioned plates, the holes through which the subjacent plates are exposed to view are divided into two groups having appearances differing from each other, the said plates being provided with scales for reading the number of holes exposed in each group and the sum of the holes of the two groups.

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