May 29, 1934. A. KNOTZ 1,960,636

INDICATING DEVICE

Filed July 23, 1931

Fig. 1

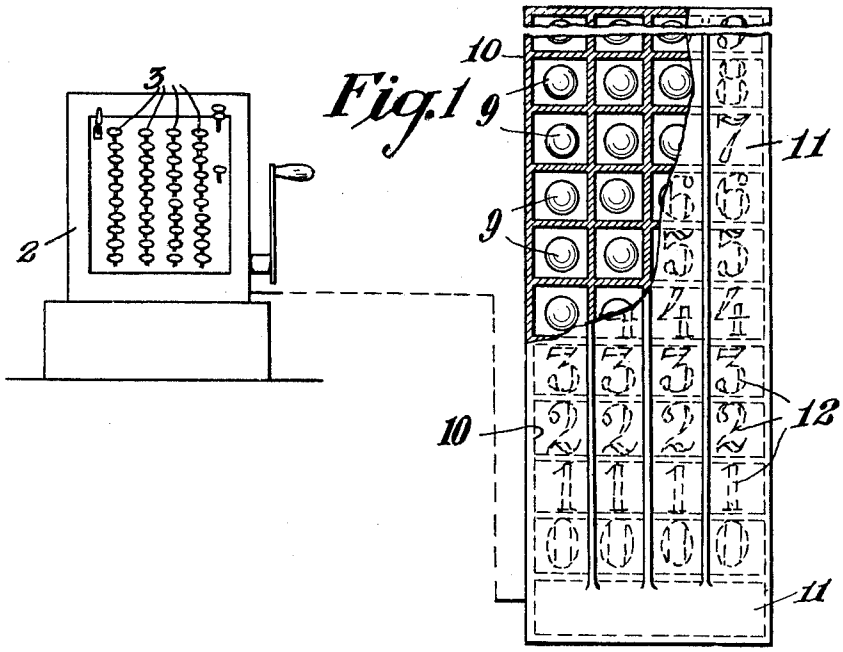
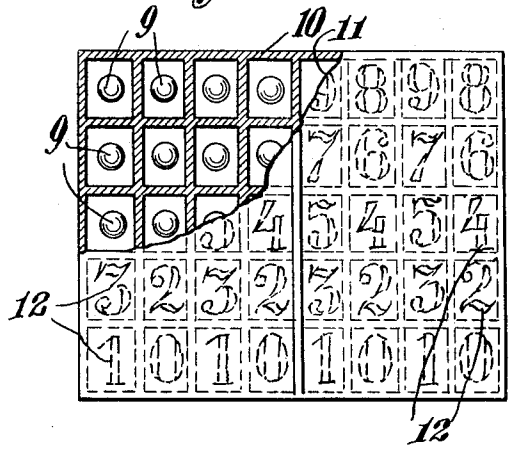


Fig. 2



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UNITED STATES PATENT OFFICE

1,960,636

INDICATING DEVICE

Alois Knotz, Graz, Austria

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In Austria May 11, 1931

1 Claim. (Cl. 235—23)

This invention relates to indicating devices for use in connection with adding machine and registering tills with a lamp panel for the illumination of numerals associated with the setting keys (setting levers), and has for its object to reduce the height of the lamp panel and to facilitate the reading of the numbers displayed on the indicating device. In order to be able to indicate any number capable of being set on a keyboard comprising, for example, four digit denominations of ten keys each (for the numerals 0 to 9), it has hitherto been necessary to provide forty lamps with the appropriate showing numerals arranged in four adjacent rows each of which contains ten numerals one above the other. Apart from the considerable over-all height of the indicator conditioned by this type of construction, the individual digits, more particularly when they are far apart in the digit sequence, of any particular number indicated appear at very different levels, which fact is prejudicial to the easy and rapid reading of the numbers displayed on the indicating device.

In accordance with the present invention, this drawback is obviated by arranging adjacent numerals (0 and 1, 2 and 3, 4 and 5, 6 and 7, 8 and 9) in juxtaposed pairs in five equal and superimposed groups, whereas with the known type of construction, there are only ten four-figure numbers for which the digits appear in a straight horizontal row, with a four-figure machine and the arrangement of the numerals in pairs, there are eighty such numbers. With all other numbers there are differences in level between the digits, but these differences are reduced by half or more as compared with the known types of indicating device for the purpose concerned. The entire indicating device is thus extended as to its breadth to the advantage of the easier and more rapid reading of the numbers displayed.

In the drawing, the invention is diagrammatically illustrated by way of example in connection with a four-figure adding machine.

Figure 1 shows a front elevation of the machine adapted for use with this indicating device;

Figure 2 is a face view partly broken away of the indicating device showing the improved arrangement in accordance with the present invention.

Referring to Fig. 1, the setting mechanism of the machine 2 has four adjacent rows of ten keys 3 each, these keys standing for the numerals 0 to 9 and thus has four digit denominations. Each of the individual key stems is provided in known manner with contacts for the closing of a current circuit for a lamp, one such arrangement being disclosed in the patent to C. J. Cassidy, No. 1,091,810. The lamps 9 themselves are accommodated in the compartments of a casing 10 which has a front wall 11 of ground glass, and which, if desired, can be set up at a distance from the machine. This wall, preferably has digit indications 12, visible when the respective lamps are lighted. Corresponding to the four digit denominations of the machine, it was heretofore the practice to provide four adjacent rows, each containing ten lamps placed one above the other. The figures displayed on the ground glass plate were required to correspond to the denotation of the setting keys connected therewith as in the present device.

In the indicating mechanism, according to the present invention, (see Fig. 2), the forty numerals are arranged in eight adjacent rows of five each, each horizontal row containing four pairs of consecutive numerals. If the second horizontal row from the bottom be considered, the numerals for the indication of the four figure numbers may read 22, 23; 22, 32; and 22, 33;—23, 22; 23, 23;—23, 32; 23, 33;—32, 22; 32, 23, and so forth, in a horizontal row although at varying distances apart. This is, however, not unpleasantly noticeable, especially if a separating line be provided between the figures for the shillings and the pence (dollars and cents). For other numbers the difference in level between the individual digits remains within tolerable limits, so that rapid and easy reading is insured.

If desired, the lamp panel can be relatively still further extended in breadth, twelve adjacent rows of five lamps each being provided for example for a machine with six digit denominations.

I claim:

An indicator panel for electrically displaying the figures of adding machines and the like and including a face plate provided with digital figures of unlike translucency to the remainder of the plate, said plate having the digital figures from 0 to 9 arranged in pairs of vertical rows with the odd digits arranged consecutively in one row and the zero and even digits arranged consecutively in the adjacent row whereby each row is but five digits high, and an electric lamp behind each digit.

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