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RECORD CONTROLLED ANNUNCIATOR

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6 Claims. (Cl. 177-327)

This invention relates to visual indicators and more particularly to an indicator controlled by designations sensed in a perforated record card.

The principal object of the invention is to provide a simple, compact indicating device in which a plurality of characters may be selectively and automatically displayed at a common reading window.

A further object is to provide an indicator employing a novel principle of operation, in which there is provided a disk carrying a ring of characters spaced around and to one side of a stationary window, and in which any character is presented to the window by sliding the disk across the face of the window in a direction determined by the character to be displayed.

Other objects of the invention will be pointed out in the following description and claims and illustrated in the accompanying drawing, which discloses, by way of example, the principle of the invention and the best mode, which has been contemplated, of applying that principle.

In the drawing:

Fig. 1 is a side view of the device.

Fig. 2 is a front view of the device with electrically operating connections extending to a diagrammatically represented record card sensing device.

10 represents the indicating disk upon whose outer surface there is spaced a ring of characters designating the ten digits. The disk 10 is integral with one end of a rod or stem 11 whose opposite end terminates in a ball 12 held in a socket formed by bracket 13 and cover plate 14.

Coaxial with rod 11 and disk 10 is a window 15 held in framework 16, and with the parts in normal inoperative position as shown window 15 exposes the central blank part of disk 10 and the numerals are out of sight. To display a selected numeral at window 15, rod 11 is tilted upon its rounded end in any of ten directions. Thus, as indicated by broken lines in the drawing, rod 11 is tilted upwardly in a vertical plane to raise the numeral 6 into line with window 15. Tilting of rod 11 in the opposite direction will present numeral 1 at the window. For the other numerals, the rod is tilted obliquely to the left or right and up or down as is apparent.

The mechanism for tilting the rod in the ten different directions comprises a ring of ten magnets 17 supported on a bracket 18, and spaced as shown in Fig. 2 each in radial relation with a related numeral. Rod 11 has secured thereto a disk 18' provided with a ring of armatures 19 spaced to each lie opposite a magnet 17, so that when a

magnet is energized the armature opposite thereto will be attracted and thereby disk 18' and rod 11 will be inclined or tilted to display the numeral related to the energized magnet 17.

A conical spring 20 has one end anchored to cover 14 and the other to disk 18'. This spring serves to prevent rotative movement of disk 18' and rod 11 and also serves to restore and hold the rod in its normal central position, when the magnet is deenergized. Bracket 18 has a circular opening 21 through which rod 11 passes, and the edge of such opening may serve as a limit stop for the rod.

In the lower part of Fig. 2, there is represented diagrammatically a mechanism for sensing designations in the well known Hollerith record card C. A row of brushes 22 traverses columns 23 of the card column by column or step by step through well known card feeding devices. The digits are represented in the card by perforations 24 made in horizontal rows related to the several digits. Thus, for example, the card of Fig. 2 is perforated to represent the number 2356. When the row of brushes 22 is on the first column 23, a circuit is completed from plus line 25, to common conductor 26, the 2 hole 24, the 2 brush 22 and related wire of the group designated 27 to the 2 magnet 17 and to the negative line 28. As a result, disk 10 is shifted down and to the right to locate the numeral 2 in window 15. When the card steps to the left, the 3 hole is sensed and disk 10 presents the 3 to window 15 and so on.

The record sensing device represents only one manner of completing circuits selectively to magnets 17 and it will be apparent that any other means for closing circuits to the magnets, such as keys, may be employed in accordance with the use to which the novel indicating mechanism may be put.

While there have been shown and described and pointed out the fundamental novel features of the invention as applied to a single modification, it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention. It is the intention therefore to be limited only as indicated by the scope of the following claims.

What is claimed is:

1. An indicating device comprising a disk having a plurality of characters arranged in a circle upon the surface thereof, a window in line with the center of the disk, said disk being movable in a different direction transverse to its axis for each

of said characters and means for moving said disk in any one of said different directions to bring the related character into alignment with said window.

2. In an indicating device, a rod pivoted at one end for tilting in any direction upon said end, an armature disk secured to the rod, a plurality of magnets adjacent to said disk and spaced in a circle about the rod, energization of any magnet causing attraction of the armature disk and tilting of the rod in a direction determined by the particular magnet energized, an indicating disk secured to the free end of the rod, and a window, said indicating disk being positionable relatively to said window to indicate through said window the magnet whose energization caused tilting of the rod.

3. In an indicating device, a rod having a rounded end, a support therefor, spring means normally holding the rod in a position at right angles to its support, a plurality of magnets spaced about the rod, energization of any magnet causing the rod to tilt about its rounded end in a direction determined by the location of the magnet, an indicating disk on the free end of the rod and a window adjacent to the indicating disk, the tilting of the rod causing said indicating disk to present a different area thereon to the window for each different position of the rod.

4. In a device of the class described having a plurality of digit representing magnets, one for each of a number of different digits, and means for sensing a record card for digit representing

designations, said sensing means causing energization of a magnet corresponding to the designation sensed in a card column, in combination with an indicating disk having digit representing characters spaced in a circle thereon, a window normally aligned with the center of the disk, and means effective upon energization of any magnet for causing relative displacement between said window and disk to align the digit related to the energized magnet with said window.

5. An indicating device comprising a disk having a surface forming part of a sphere and having a plurality of characters arranged in a circle on said surface, a window in line with the center of the disk, said disk being movable in a different direction in a circular path tangential to the plane of the window for each of said characters and means for moving said disk in any one of said different directions to bring the related character into alignment with said window.

6. In an indicating device, a stationary window, a plurality of characters spaced about said window in a plane substantially parallel thereto, said plurality of characters being carried on a common supporting element, said element being movable in a different direction transverse to the window for each of said characters and means for selectively moving said element in one of said different directions to present the related character to said window.

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