July 12, 1949. D. M. HOLLOWELL 2,476,194

EDUCATIONAL TOY

Filed April 26, 1948

Fig. 1

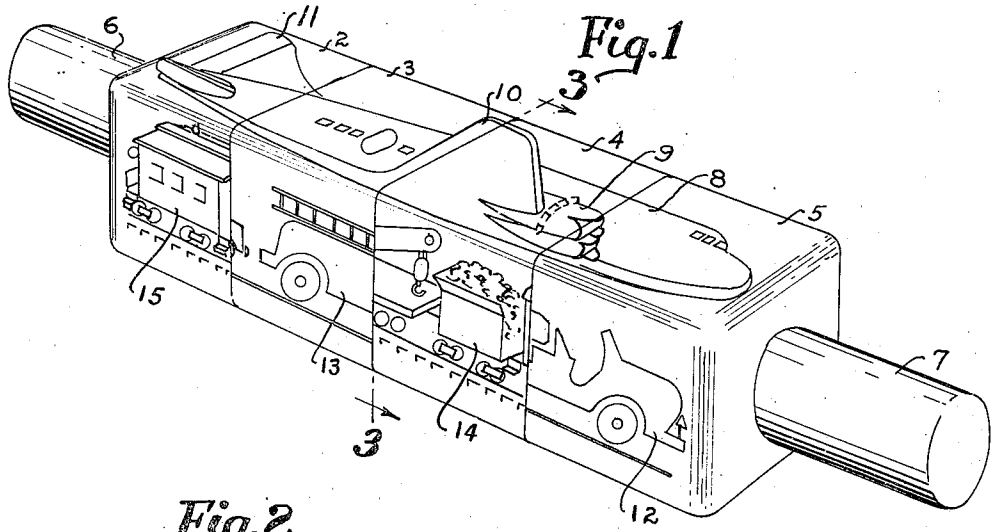


Fig. 2

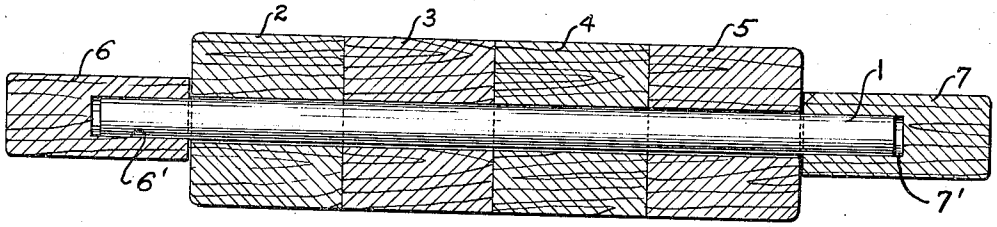


Fig. 3

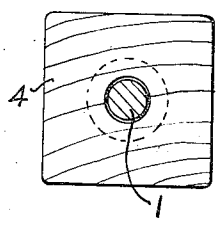
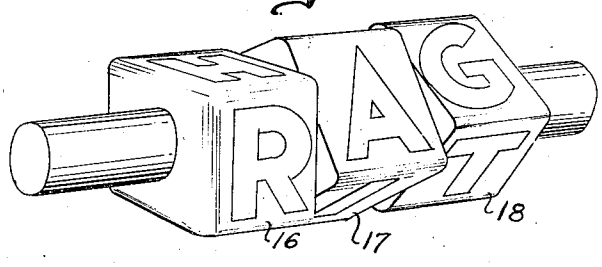


Fig. 4



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EDUCATIONAL TOY

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2 Claims. (Cl. 35—77)

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This invention relates to improvements in educational toys, and more particularly to toys which comprise a plurality of blocks, which blocks are adapted to be rotated independently of each other about a center shaft and are secured against longitudinal movement on said shaft.

The educational type block as generally known heretofore, has been a separate entity and depended on other blocks for any complete assembly. Such blocks are readily scattered and lost, and when this occurs, they are no longer useful as educational toys.

The primary object of this toy is to provide a series of blocks that are held together, yet are independently rotatable about a common shaft.

Another object of this toy is to provide a series of blocks, which, when rotated in proper sequence about a common shaft, portrays a predetermined sequence, such as words from letters, equations from numbers and symbols, and completed pictures and the like.

Still another object of this toy is to provide for securing the blocks together in such manner that they do not become separated, but at the same time they may be rotated about a common shaft.

Yet another object of this toy is to provide an amusement device for children that is easily handled, attractive in appearance, that may be readily cleaned, and which imparts to the child, in an interesting manner, some information.

Still another object of the device is to provide an educational toy from which a child may acquire skills and which stimulate the mental processes.

In order to carry out the objects as set forth above, a series of blocks have been provided, which blocks are bored to be fitted onto a common shaft and are adapted to be held thereon by a sleeve frictionally engaging each end of the shaft.

An embodiment of this toy is illustrated in the accompanying drawings, in which;

Fig. 1 is a perspective view of the toy assembled;

Fig. 2 is a cross sectional view lengthwise therethrough, with parts shown in elevation;

Fig. 3 is a cross sectional view thereof taken on the line 3—3 of Fig. 1; and

Fig. 4 is a perspective view of a form of the toy showing the blocks as having letters on the exposed faces thereof, and the manner of rotating the blocks about a common axis.

With more detailed reference to the drawing, the numeral 1 designates a shaft. A series of blocks 2, 3, 4 and 5, is provided, each block having an axial bore therethrough, which bore is of such size as to fit snugly on the shaft 1, but to allow the blocks to be rotatable thereon. The blocks are of such mass, that they remain in stable equilibrium in any position in which they are

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rotated about shaft 1. This fact is evidenced by comparing the dimensions of the blocks with the diameter of shaft 1, in the accompanying drawings. Consequently, the blocks will remain in alignment no matter in which position the toy is held. It is to be understood that any number of blocks may be assembled on the shaft so long as they can be readily handled by the child in the age group for which it is designed. If the toy cannot be easily handled, and the blocks readily turned on the shaft, it loses one of its basic educational features, particularly for the pre-school child, in that it would not encourage manual skill. However, the applicant does not wish to be confined to any particular size, shape or number of of blocks, nor to any particular material, as the device might conceivably be used in some forms of adult education.

The corners of the blocks may be slightly rounded to relieve them of sharpness, both for the sake of appearance and for safety, and the surfaces thereof should be smoothly finished both for appearance, safety, and ease of cleaning.

The blocks are held in place on the shaft 1 by caps or sleeves 6 and 7, one on each end thereof. The bore 6′ and 7′ in the respective sleeves is of such size as to frictionally engage the shaft. These sleeves are preferably of such size as to be grasped by the child, and the bore therein is determined by the size of the shaft upon which they are mounted. The shaft should be sufficiently sturdy so as not to be readily broken.

The exposed faces of each of the blocks bears a portion of an educational sequence, as for example, if each exposed face of each block bears a letter of the alphabet, words may be formed by rotation of the block, as shown in Fig. 4, to make a certain sequence. It has been found that forty-two words can be formed from a three block toy, with each exposed face of each block bearing a letter of the alphabet.

If numbers and symbols are shown on the exposed faces of the blocks, equations can be worked out, or if pictures, a portion thereof can be shown on each block, the problem being to rotate the blocks until a complete picture is formed, as for example, animal groups, ships, fire trucks and the like. The problems that may be presented are infinite and limited only by the imagination and skill of the designer. The toy can be made special for particular fields of education, such as music, mathematics, reading and the like, or the blocks may bear simple word or picture sequences that develop both the mental and manual skills of the child.

With the blocks as shown at 2, 3, 4 and 5 in Fig. 1, arranged on shaft 1 and held thereon and restrained against longitudinal movement by the respective end sleeves 6 and 7, the blocks

may each be independently rotated on the shaft so that a symbol or portion of an illustration may be brought into register with a complementary symbol or portion of an illustration on an adjacent block, as in the case of the air plane illustrated on the upper faces of the blocks as assembled in Fig. 1. The nose portion 8 may be brought into view, with the motor portion 9, on a different block, adapted to be brought into register therewith, and in like manner other portions thereof are shown on other blocks, such as the wing portion designated at 10. It is readily evident that, when rotated until brought into proper sequence, the representation of the air plane is complete. It is preferable to have the illustrations on the other exposed faces of the blocks disassembled or scrambled, when one sequence is complete, as for example in Fig. 1, a portion of a fire truck is shown at 12 on one block, another portion thereof is shown at 13 on another block, while the other adjacent blocks show dis-associated portions of other pictures, as for example, a part of a train as shown at 15. It is to be understood that it is not necessary to rotate the blocks in order, but to rotate them in such manner that a series of symbols or portions of pictures completes a sequence when the proper faces of the blocks are in proper order. It is preferable that the other faces do not show a complete sequence, so as to tax the ingenuity of the child to form the proper sets of numbers, letters, pictures, as the case may be.

Furthermore, the different sequences to be formed may carry out different color combinations, so as to teach color comprehension of the child, along with the other skills.

The toy as shown in Fig. 4 comprises three blocks, designated as 16, 17 and 18, respectively. Each exposed face of each of these blocks bears a letter of the alphabet, and from this figure it is readily apparent how words can be formed by the rotation of the various blocks. Several of these words are obvious in the illustration, and it is equally obvious that others may be formed by bringing different letters into proper combinations. Additional blocks bearing letters on the exposed faces thereof, obviously increases the number of words that may be formed.

In the case of special fields of education, such as music or mathematics, the child's mental and creative skill is stimulated. For example, numbers and symbols may be designated on the blocks, and from which simple equations may be formed. For instance, one block may have a "1" on one face, and may be brought into register with another block having a "plus" thereon, another number on another block and another block may have "equals" on a face thereof, the problem being for the child to rotate into place the number which would be the answer to the equation. Both a number and a symbol may be shown on a single face of a block, thus requiring fewer blocks for simple equations.

In music, the staff may be arranged on the various blocks, so that, when brought into proper sequence, a simple melody, an appropriate jingle or a sentence song may be presented, or a combination of these.

This toy fills a need not heretofore supplied, and is so simple as to appeal to the very young child, yet sufficiently interesting to appeal to many age groups.

The toy is so constructed that it remains essentially an educational toy, because the parts cannot be lost or scattered. One toy presents the same problems over and over, so that they can be learned by the child, whereas, with disassembled blocks sufficiently frequent repetition of any one problem until it is learned by the child is unlikely.

It is to be understood that the blocks may be decorated by any suitable method, such as painting, decalcomania, etching or the like may be employed.

I claim:

1. A portable educational device comprising a shaft, a plurality of polygonal blocks each having a central opening therethrough whereby said blocks are freely mounted on said shaft, said blocks having indicia on the faces thereof adapted to present a continuous sequence when the blocks are selectively rotated and positioned on said shaft in suitable adjacent relation, said blocks being of such mass as to remain in stable equilibrium on said shaft in any position of said shaft, and a pair of handles at opposite ends of said shaft, said handles extending a substantial distance beyond the respective terminal blocks, whereby they may be grasped by both hands of the user, said handles also having smaller dimensions than said blocks, each of said handles having a cylindrical opening adapted to receive an end of said shaft, said handles also having an inward face abutting the outward face of the terminal blocks to maintain said blocks in close adjacency and to prevent outward movement thereof, and certain edges of said blocks being rounded to prevent sharp lines in the toy.

2. A portable educational device comprising a shaft, a plurality of blocks each having a central opening therethrough whereby said blocks are freely mounted on said shaft, said blocks having indicia on the faces thereof adapted to present a continuous sequence when the blocks are selectively rotated and positioned on said shaft in suitable adjacent relation, said blocks being of such mass as to remain in stable equilibrium on said shaft in any position of said shaft, and a pair of handles at opposite ends of said shaft, said handles extending a substantial distance beyond the respective terminal blocks, whereby they may be grasped by both hands of the user, said handles also having smaller dimensions than said blocks, each of said handles having a cylindrical opening adapted to receive an end of said shaft, said handles also having an inward face abutting the outward face of the terminal blocks to maintain said blocks in close adjacency and to prevent outward movement thereof, and certain edges of said blocks being rounded to prevent sharp lines in the toy.

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