Jan. 18, 1927. **1,614,583**

O. ZIMMERMANN

EDUCATIONAL AND INSTRUCTIVE TOY

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Fig. 1

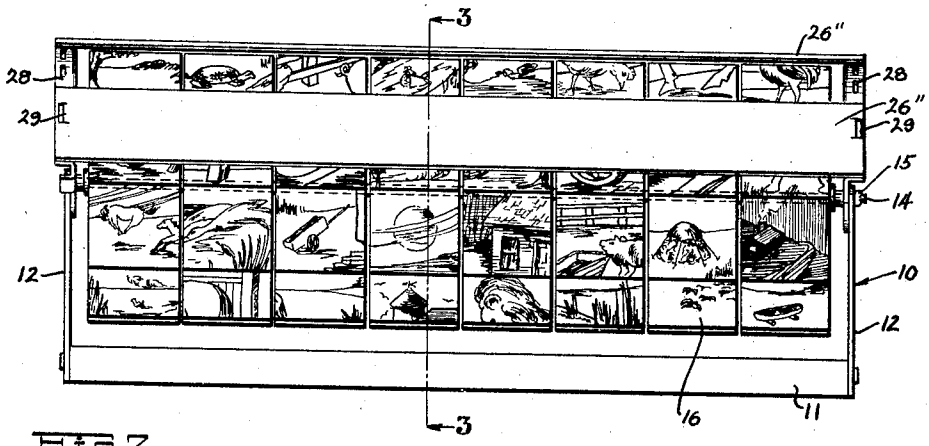


Fig. 7

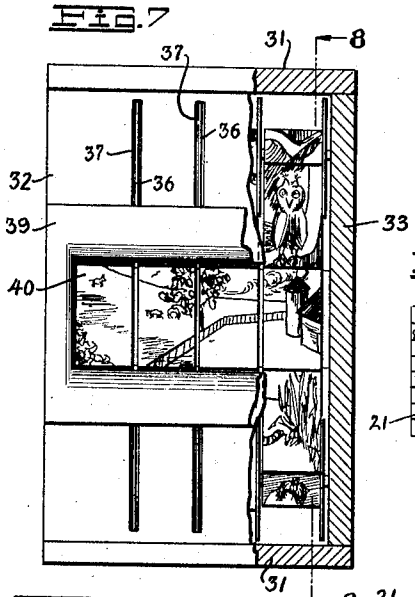


Fig. 2

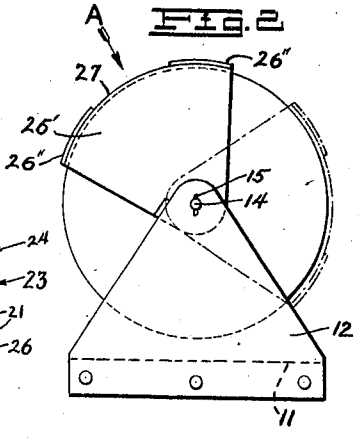


Fig. 15

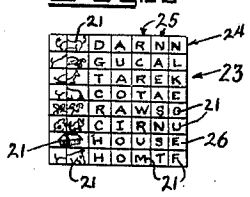


Fig. 5

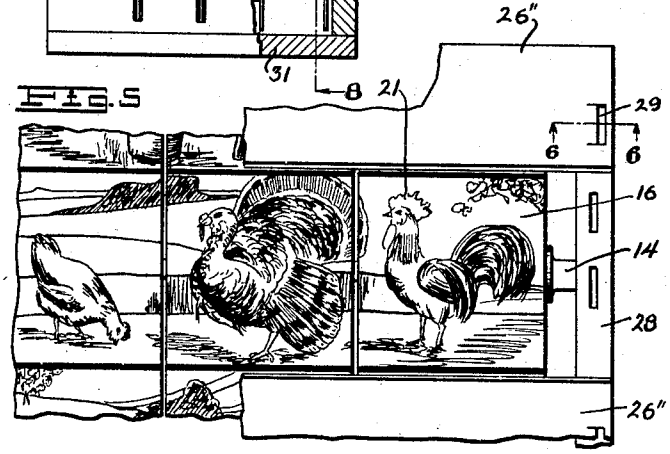
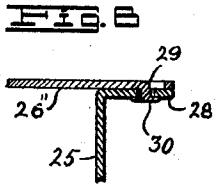


Fig. 6



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Fig. 8

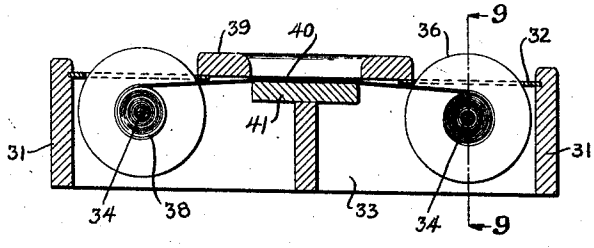


Fig. 9

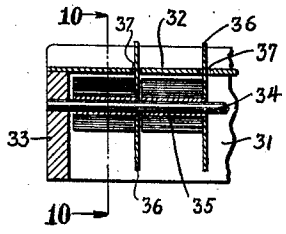


Fig. 11

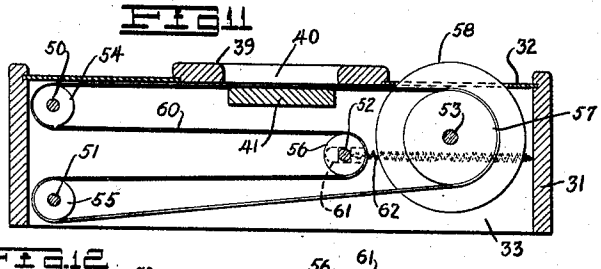


Fig. 3

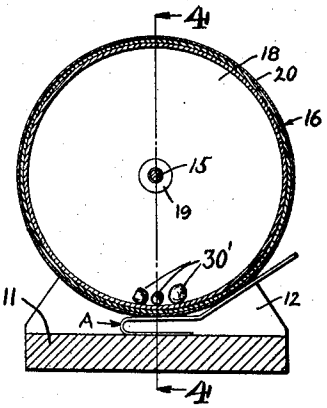


Fig. 12

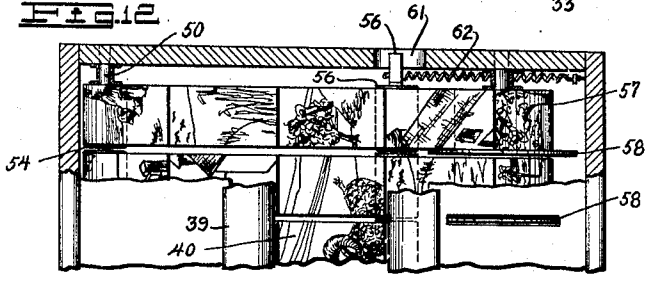


Fig. 4

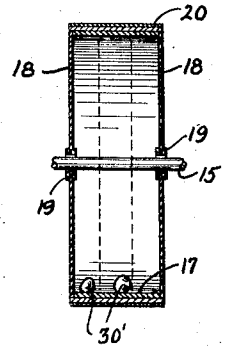


Fig. 13

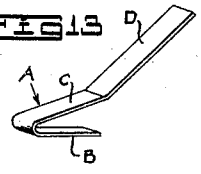
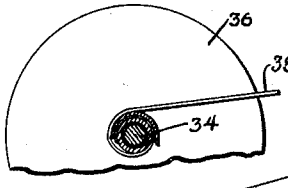


Fig. 10



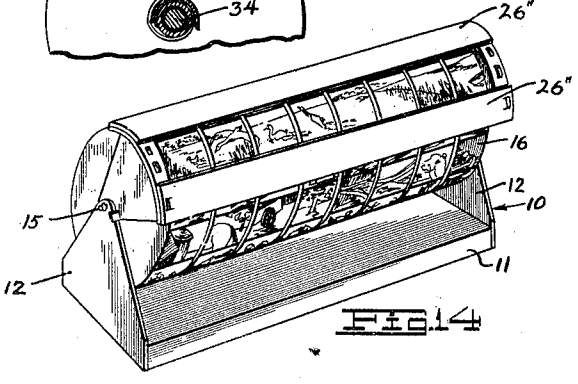


Fig. 14

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Patented Jan. 18, 1927. 1,614,583

UNITED STATES PATENT OFFICE.

OSCAR ZIMMERMANN, OF LOS ANGELES, CALIFORNIA.

EDUCATIONAL AND INSTRUCTIVE TOY.

Application filed October 19, 1925. Serial No. 63,311.

This invention relates to educational and instructive toys.

The general object of the invention is to provide an educational toy which is adapted for use by infants and children.

A specific object of the invention is to provide a toy including a supporting member and a plurality of independently movable picture members so arranged that they can be moved into registration to produce a desired effect.

A further object of the invention is to provide a toy including a base and having a plurality of rotatable drums mounted coaxially on the base wherein the drums are provided with figures upon their outer surface, the whole being combined so that the figures may be aligned in different series.

Another object of the invention is to provide a picture puzzle device wherein a novel form of mounting the pictures is provided.

Other objects of the invention will be apparent from the following description taken in connection with the accompanying drawings, wherein:

Fig. 1 is a front elevation of a toy embodying the features of my invention;

Fig. 2 is an end elevation of the device;

Fig. 3 is a section on line 3—3, Fig. 1 showing the holding clip;

Fig. 4 is a section on line 4—4, Fig. 3;

Fig. 5 is a top plan view of a portion of the device on an enlarged scale;

Fig. 6 is a sectional detail;

Fig. 7 is a top plan view partly in section showing a modified form of my invention;

Fig. 8 is a section on line 8—8, Fig. 7;

Fig. 9 is a section on line 9—9, Fig. 8;

Fig. 10 is an elevational detail showing one of the supporting rolls used in the modification;

Fig. 11 is a cross section of a further modification of my invention;

Fig. 12 is a top plan view partly in section showing the second modification;

Fig. 13 is a perspective view of the holding clip;

Fig. 14 is a perspective view showing the preferred form, and

Fig. 15 is a plan of the sheet showing the arrangement of pictures thereon.

Referring to the drawing by reference characters, I have indicated my invention generally at 10. As here shown the device comprises a base 11 having a triangular support 12 at each end thereof. The supports 12 have a shaft 14 mounted thereon which is prevented from being removed therefrom by flattened portions 15.

Mounted upon the shaft 14 I arrange a plurality of rotatable drums 16. Each of these drums comprises an outer cylinder 17 and a shorter inner cylinder 17'. Mounted upon the ends of the inner cylinder are end closures 18 which are provided with metal eyelets 19 which serve as bearings which engage the shaft 15.

The outer surface of the drums is covered with suitable paper or other material 20 which will have printed or otherwise depicted thereon suitable characters 21 to satisfy the particular requirements in each case.

The drums are mounted for independent movement and the figures are arranged in panels on the different drums. Each panel is preferably of the same width so that a plurality of rows of pictures may be formed by turning the drums to different positions.

The pictures 21 are so designed so that a plurality of longitudinal rows will be provided wherein there is a common characteristic present throughout the row. For instance, in one case, domestic animals may be shown throughout the entire row as shown in Fig. 5. In another instance certain animals such as mammals might be arranged to be shown in a continuous row with a description of their characteristics included in one panel. In another instance numbers might be provided so that arithmetic or algebraic results may be worked out on the device. In fact, with my invention any arrangement of pictures to illustrate any desired picture may be provided to suit the individual requirements of the user.

Although I describe the invention as used for the presentation of pictures it will be understood that it is equally applicable to other uses and the showing of pictures in the drawings is only for the purpose of indicating one embodiment.

The pictures may be arranged in puzzle fashion with a portion of one picture on one drum and another portion of the same picture on another drum so that in effect a revolving puzzle picture is produced. The device is also adaptable for use in teaching spelling wherein a picture may be presented on one drum and other drums may have the necessary letters thereon to spell the name of the object shown in the picture. In making the device I preferably print the pictures

21 on a sheet 23 where the horizontal rows of panels 24 are shown and also the vertical rows of panels 25. In making different sheets the pictures constituting each series will be staggered on the sheet so that when one series is in proper arrangement as shown at 26 the other series will be in disorder thereby requiring that the toy be operated to secure each correct setting.

The sheet 23 will preferably be pasted as a whole on the drum and after it is fixed the paper will be cut to allow the drums to rotate.

In order that the pictures may be readily aligned I mount a pair of segmental members 26′ upon the shaft 15 near the end supports 12. These segmental members 25 are provided with a pair of arcuate elongated strips 26″ thereon which are spaced apart to provide a viewing aperture shown at 27 in Fig. 2. In using the device the operator will align the bottom of the respective panels along the upper edge of a member 26″ as shown in Fig. 14, and will look at the pictures in the direction of the arrow A in Fig. 2. When the toy is desired for use without the strips 26″ the member 26′ will be swung to the dotted line position shown in Fig. 2. Suitable weights 30 may be placed in the drums to provide a noise when the toy is operated.

To hold the drums in set position I may employ clips A as shown in Figs. 3 and 13. The part B of the clip may engage the base 11 while the parts C, D will engage the drum.

Instead of mounting the picture on drums I may provide a casing including end members 31 having a top member 32 thereon and having a side members 33. Mounted upon the side members 33 I show a pair of spaced elongated shafts 34 and upon these shafts I arrange spaced bushings 35. These bushings engage discs 36 which are fixed to the bushings. The discs 36 have their upper portions extending through slots 37 in the top 32 and the bushings are mounted for independent movement on the shafts 34. Each pair of bushings 35 has an end of a strip or ribbon 38 mounted thereon and the top 32 is provided with a transverse member 39 which has a viewing aperture 40 therein. Beneath the viewing aperture 40 is a support 41 upon which the strips 38 rest as they pass beneath the aperture.

There is one of the strips 38 arranged on each pair of bushings 35 and these strips are provided with pictures or other representations similar in all respects to the pictures and representations mounted on the drums and previously described.

In Figs. 11 and 12 I show a further modification wherein a casing including ends 31, top 32, sides 33, transverse member 39, aperture 40 and support 41 similar to the casing previously described may be used. This casing has shafts 50, 51, 52 and 53 therein, each of which receives a plurality of rollers 54, 55, 56 and 57. The rollers 57 have operating discs 58 thereon which project through the cover 32. The discs 58 are mounted and operated in the same manner as are the discs 36, previously described.

There are a number of sets of the rollers 50, 51, 52 and 53 and each set has an endless strip 60 fitted thereon. The strips may be moved beneath the aperture 40 by turning the disc 58. The strips 60 may be similar to the strips on the drums as previously described.

In order to hold the strips under tension I mount the shaft 56 for sliding movement at each end in a slot 61 and secure springs 62 to the shaft and to the inner wall of the end 31. The springs 62 thus give the proper tension to the paper.

Having thus described my invention, I claim:

1. In a device of the class described, an elongated base member having a shaft thereon, means to prevent displacement of said shaft, a pair of flanged members mounted to rotate on said shaft, a pair of elongated strips secured in spaced relation on said flanges, a plurality of cylindrical members mounted for independent rotation on said shaft, said cylindrical members each having a plurality of panels arranged upon and with the surface, said panels each having figures delineated thereupon, the figures being arranged on the drums so that an elongated series of related pictures may be provided between said strips.

2. In a device of the class described, an elongated base member having a plurality of supports thereon, a shaft supported by said supports, a pair of flanged members mounted to rotate on said shaft, a pair of elongated strips secured in spaced relation on said flanges, a plurality of drums mounted for independent rotation on said shaft, each of said drums comprising a hollow tubular member having a pair of end closures thereon, said drums each having a plurality of panels arranged upon and with the surface, said panels each having figures delineated thereupon, the figures being arranged on the drums so that an elongated series of related pictures may be provided between said strips.

3. In a device of the class described, an elongated base member having a plurality of triangular supports thereon, a shaft supported by said triangular supports, means to prevent displacement of said shaft, a pair of segmental members mounted to rotate on said shaft, said segmental members each having a flange thereon, a pair of elongated strips secured in spaced relation on said flanges, a plurality of drums mounted for

independent rotation on said shaft, each of said drums comprising a hollow tubular member having a pair of end closures thereon, a free weight in each drum, eyelets mounted on said end closures, said eyelets being fitted on said shaft, said drums each having a plurality of panels arranged upon and with the surface, said panels each having figures delineated thereupon, the figures on each drum being of non-related subjects, the figures being arranged on the drums so that an elongated series of related pictures may be provided.

In testimony whereof, I hereunto affix my signature.

OSCAR ZIMMERMANN.