

May 8, 1962

A. DEBEH
EDUCATIONAL TOY

3,032,893

Filed Feb. 7, 1961

2 Sheets-Sheet 1

FIG. 1

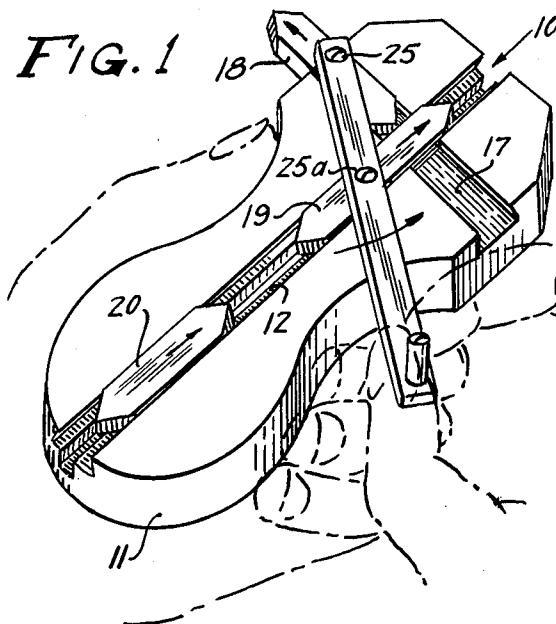


FIG. 2

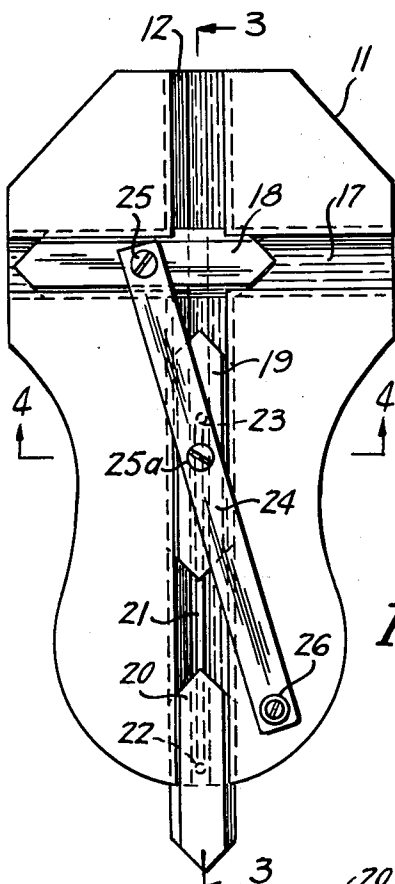


FIG. 3

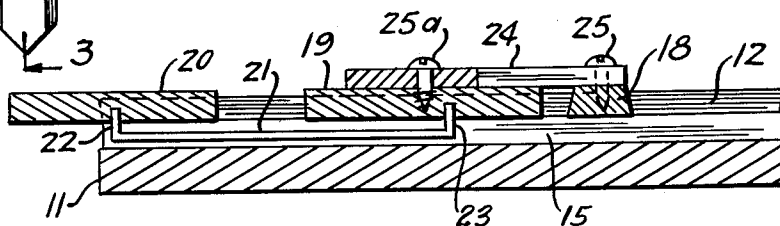
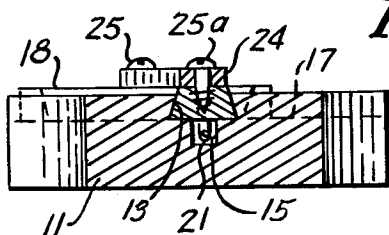


FIG. 4



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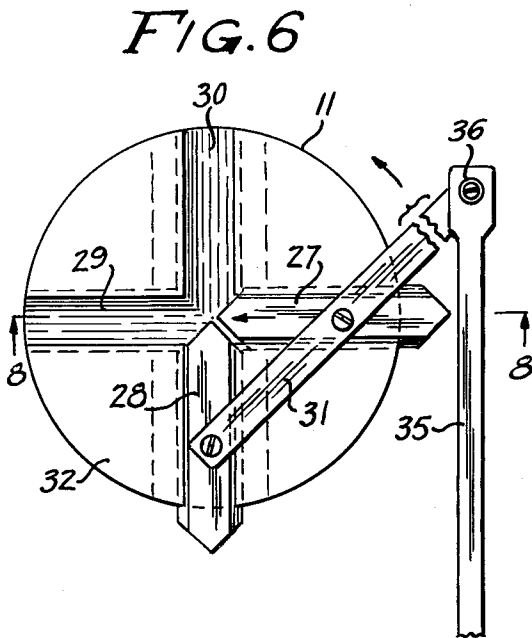
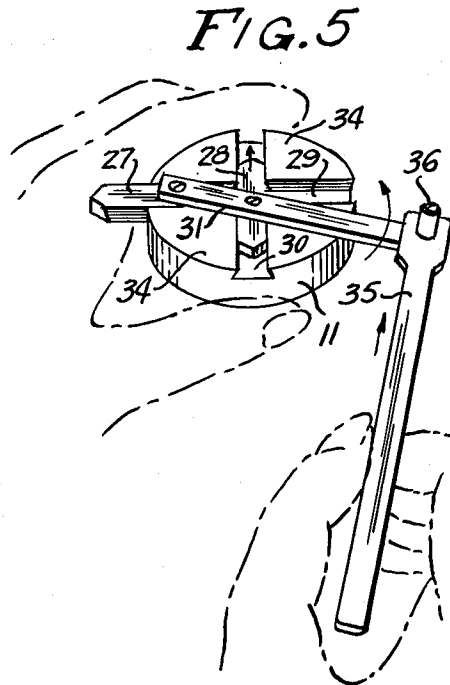
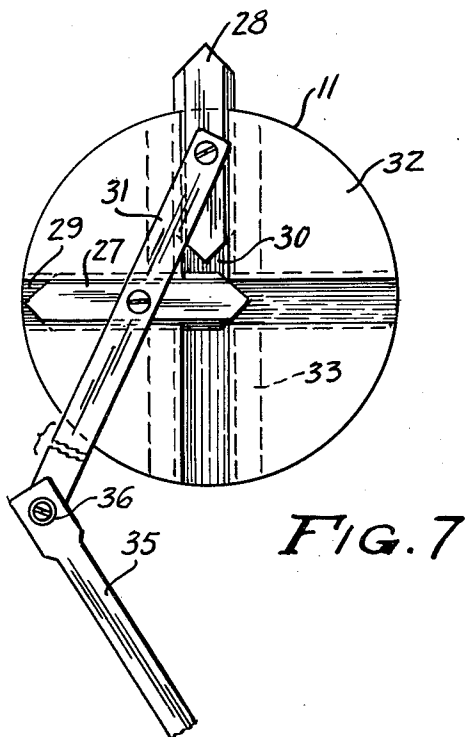
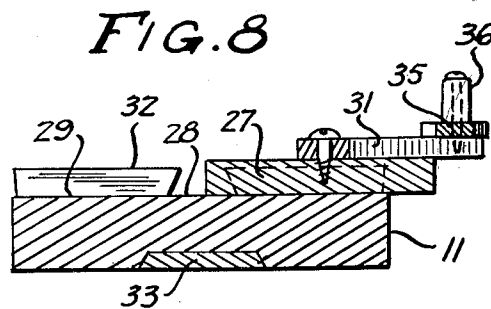
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3,032,893

EDUCATIONAL TOY

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1 Claim. (Cl. 35-13)

This invention relates to a toy of the type which is both entertaining and educational.

An object of this invention is the provision of a device which may be enjoyed by both children and adults.

A further object of this invention is the provision of a device which may be used to demonstrate various principles of mechanical movements.

A further purpose of this invention is the provision of a toy which will graphically demonstrate the change of an elliptical rotary motion into a double perpendicularly reciprocating motion.

Further objects and purposes will become readily apparent from the following specification, in conjunction with the drawings, wherein:

FIGURE 1 is a perspective view.

FIGURE 2 is a top plan view.

FIGURE 3 is a cross-sectional view taken along line 3-3 in the direction of the arrows in FIG. 2.

FIGURE 4 is a cross-sectional view taken along line 4-4 in the direction of the arrows in FIG. 2.

FIGURE 5 is a perspective view showing a modification.

FIGURE 6 is a top plan view showing one position of the slides.

FIGURE 7 is a top plan view showing another position of the slides.

FIGURE 8 is a cross-sectional view taken along line 8-8 in the direction of the arrows in FIG. 6.

The invention is generally indicated at 10, having a base 11 in substantially the shape of a violin. The base 11 may be constructed of any suitable material, such as wood, plastic, or metal. A groove 12 is cut in the upper surface of the base 11. The groove 12 has sloping sides 13 and a flat bottom portion 14 parallel to the surface of the base 11, thereby forming a substantially dovetail shape (in the flat bottom portion 14). A second groove 15 is cut having sides 16 perpendicular to the upper surface of the base 11.

At right angles to the groove 12 and lying in the same plane therewith is a similar groove 17.

A slide 18 is held in the groove 17 in a loose-fitting movable manner by the dovetail shape of the groove 17 and the complementary shape of the slide 18. Similarly, slides 19, 20 coast with the groove 12. Because of the dovetail construction of the slides 18, 19, 20, and the grooves 12, 17, the slides 18, 19, 20 may be moved along their respective grooves in a horizontal fashion but have substantially no vertical movability.

The slides 19, 20 are connected by a link 21, which has upturned ends 22, 23 fitted into the slides 19, 20. The link 21 extends below the groove 12 into the groove 15.

Attached to the longitudinal centers of the slides 18, 19, is an arm 24. The arm 24 is pivotally fastened to the slides 18, 19 by any suitable means, such as screws 25, 25a. The arm 24 is provided with a knob or handle 26 by which the arm is grasped to rotate the latter on 25a as a pivot.

In operation, the present invention changes an elliptical rotary motion into a double perpendicularly reciprocating motion. This is accomplished in the following manner:

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the knob 26 is grasped between the thumb and forefinger of one hand while the base 11 is held firmly in the other hand. The arm 24 is then moved in a rotary elliptical fashion by means of the handle 26. As seen in FIG. 1, a counterclockwise rotation of the knob 26 causes the slide 18 to move in the direction of the arrow, while the slides 19, 20 also move perpendicularly thereto. After the slides 19, 20 have reached the limit of their movement, the slide 18 then moves between the slides 19, 20 to the opposite side and limit of its movement. The continuing rotation of the knob 26 then reverses the direction of the slides 19, 20, whereupon they travel to the opposite extent of their movement. When the above operation is performed rapidly the slides 18, 19, 20 glide smoothly back and forth, crossing in their respective grooves 12, 17, creating a novel effect.

A modification of the present invention, embodying the same inventive concept, is shown in FIGS. 5 to 8. Slides 27, 28 coast with grooves 29, 30 and an arm 31 in a manner similar to the above description of the preferred form of the invention. The base 32 is circular in shape and may have provision for movable dovetailed plate 33 on the bottom thereof. This plate is suitable for the inscription of a name or motto.

The upper surface 34 of the base 32 may be provided with ornamentation or indicia. In order to prevent the indicia 34 from becoming obscured when the hand is moved across them, an extension handle 35 may be provided to fit loosely over knob 36.

As may be seen from the above, an educational toy has been provided which both entertains and educates through a demonstration of physical motion.

I claim:

An educational and amusement device comprising a base member, portions of said base member defining a first centrally disposed groove therein, portions of said first groove defining a channel in the bottom thereof, other portions of said base member defining a second groove therein adjacent one end thereof and perpendicularly intersecting said first, a pair of slide members in said first groove, said pair of slide members having means to secure each other together in spaced relation, said securing means residing in the channel in the bottom of said first groove, a single slide member in said second groove, an elongated operating member pivotally secured intermediate its ends to one of said pair of slide members in said first groove, one end of said operating member pivotally secured to said single slide member in said second groove, and a handle rotatably secured to the free end of said operating member, said elongated operating member manually rotatable to reciprocate said pair of slide members in said first groove and said single slide member in said second groove synchronously whereby said single slide member passes between said pair of spaced slide members at certain stages of operation of the device.

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