

No. 613,432.

Patented Nov. 1, 1898.

S. SZENHAK.
PENCIL BOX.

(Application filed Aug. 19, 1898.)

(No Model.)

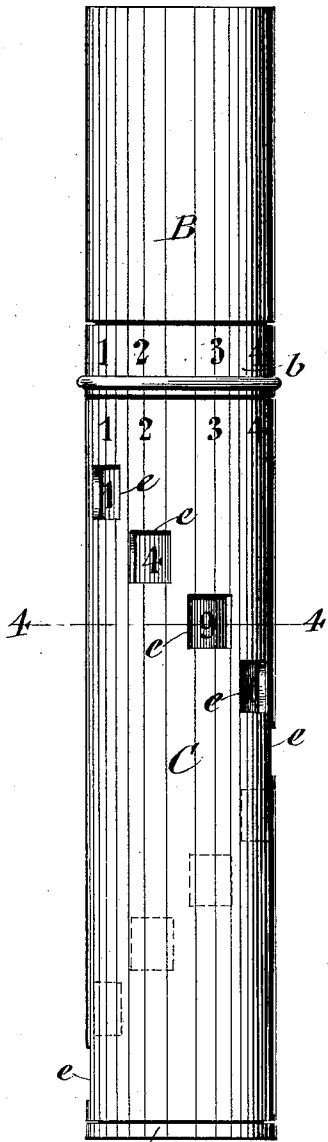


Fig:1.

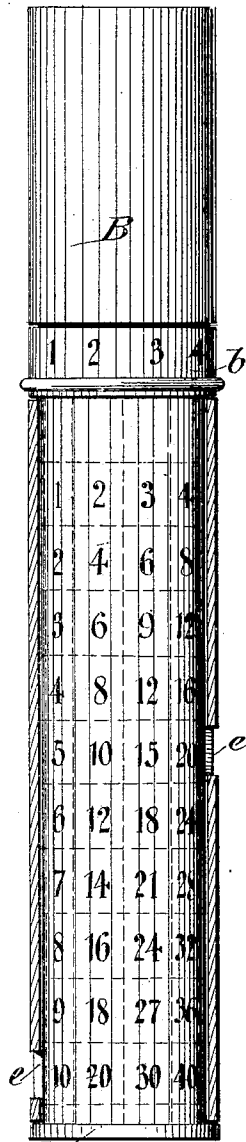


Fig:2.

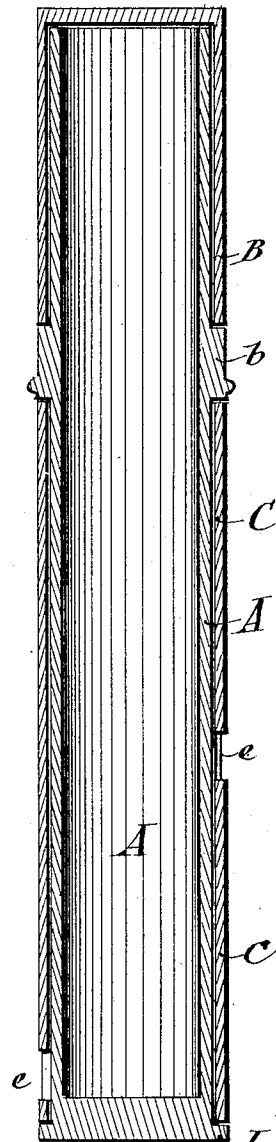


Fig:3.

WITNESSES:
M. Henry Montyell
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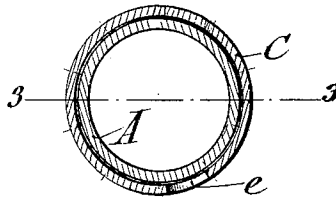


Fig:4.

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UNITED STATES PATENT OFFICE.

STANISLAS SZENHAK, OF WARSAW, RUSSIA, ASSIGNOR TO JULIUS WITKOWSKI, OF YOKOHAMA, JAPAN.

PENCIL-BOX.

SPECIFICATION forming part of Letters Patent No. 613,432, dated November 1, 1898.

Application filed August 19, 1898. Serial No. 688,976. (No model.)

To all whom it may concern:

Be it known that I, STANISLAS SZENHAK, a subject of the Czar of Russia, residing at Warsaw, Kingdom of Poland, and Empire of Russia, have invented certain new and useful Improvements in Pencil-Boxes, of which the following is a specification.

This invention relates to pencil-boxes for children's use; and the object of the invention is to produce a pencil-box of such construction that it will serve not only as a receptacle for pencils, pens, &c., in the manner in which such boxes are customarily used by children, but that it will also serve as an aid to children in learning the multiplication-tables, the box being somewhat in the nature of a movable toy, to which children are attracted and in the operation of which they are constantly reminded of the products of the various multipliers and multiplicands of the multiplication-tables, respectively, the box thus combining instruction and amusement.

The invention consists of a pencil-box comprising a body the surface of which is provided with figures representing the products of the multiplication-tables arranged in longitudinal rows, a collar on said body provided with a circumferential line of figures representing multiplicands arranged in line with the rows of products on the body, and a rotary cylinder applied to the body of the pencil-box and provided at one end near the collar with a circumferential line of figures representing multipliers and with apertures, one for each row of figures on the circumference of the body, said apertures being arranged in a helicoidal line, so that the products of the respective multipliers and multiplicands may be read off through said apertures, as will be more fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my improved pencil-box. Fig. 2 is a side elevation, partly in vertical section, through the rotary cylinder arranged on the body of the pencil-box. Fig. 3 is a vertical longitudinal section through the entire pencil-box on line 3 3, Fig. 4; and Fig. 4 is a vertical transverse section on line 4 4, Fig. 1.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the hollow body of the pencil-box, which is of cylindrical shape and provided at its upper portion with a projecting collar *b*. The cap B of the box is hollowed to fit snugly upon the upper portion of the body A, said cap abutting against the collar *b*. An exterior hollow cylinder or sleeve C is adapted to turn freely on the body A, said cylinder extending from the collar *b* to the lower end or bottom of the pencil-box, where it is retained by a collar *d*, which is either made integral with the box A, like the collar *b*, or made separately therefrom and soldered thereto or shrunk on the body A, according to the material from which the pencil-box is made. The collars *b* and *d* prevent the longitudinal movement of the hollow cylinder C on the body A. The cylinder C is provided with apertures *e*, of oblong, round, or other suitable shape, which are arranged in a helicoidal line from a point near the collar *b* to the opposite end of the same near the collar *d*, thus allowing certain portions of the body A to be seen through the apertures of the cylinder as the same is turned on the body.

To adapt the pencil-box as above constructed for use as an aid in learning the multiplication-tables, the multiplicands, commencing with the figure "1," are arranged consecutively up to the "10" or "0" on the circumference of the collar *b*. The multipliers are likewise arranged in a circumferential line on the adjacent end of the rotary cylinder C, their distance from each other being the same and equal to the distances of the figures of the multiplicands from each other. The products of the multipliers and multiplicands are arranged in longitudinal lines upon the body A of the box, the lines being composed of the products of a given multiplicand and the successive multipliers as arranged on the collar and cylinder, respectively, and the successive longitudinal lines as arranged circumferentially on the body of the box being composed of the products of a given multiplier and successive multiplicands. In Fig. 2 this arrangement is shown in detail upon one-half of the body of the box.

The apertures e in the cylinder are arranged to register with the figures upon the body of the box. The figure "1" of the line of multipliers on the cylinder is arranged adjacent to the aperture nearest the top of the cylinder, as in Fig. 1. The successive apertures are then arranged in a helicoidal line, each aperture progressing circumferentially the width of a longitudinal line of figures on the body, so that its circumferential location corresponds thereby with the location of the successive multipliers on the cylinder, and at the same time progressing longitudinally toward the bottom of the cylinder for the width of one circumferential line of figures on the body. Thus if there are ten multipliers and ten multiplicands a progression of ten spaces only will be required for the proper location of all the apertures, which will, upon a step-by-step rotation of the cylinder, cover the entire one hundred products of the multiplication-tables as arranged upon the body A.

When the figures "1" on the collar b and on the cylinder C are placed in line with each other, all the successive multiplicands and multipliers are likewise in line with each other. The cylinder may now be rotated, and any desired multiplier on the cylinder being opposite to the desired multiplicand on the collar b the product of the two is simultaneously shown through the aperture e , which is then in a longitudinal line with them. On turning the cylinder a different multiplier is brought opposite the same multiplicand, and the product of the two is indicated through the aperture in longitudinal line with them. It will be seen that no incorrect product can at any time be disclosed, as the registering of a single multiplier and multiplicand will register all of them, together with the lines of products, and expose to view by means of the helicoidal arrangement of apertures the resulting products of the relative multipliers and multiplicands.

The width of the longitudinal line of figures upon the body is preferably made the same as the width of the lines circumferentially, thus dividing the surface of the body in the case of ten multipliers and ten multiplicands into one hundred equal spaces. The apertures and the spaces into which the surface of the body A is divided may be square, or, if the box and cylinder are lengthened, oblong in shape. It is obvious that the apertures may also be round, oval, or other shape.

The various figures may be painted, printed, or impressed in any suitable manner upon the pencil-box and may be in the same or different colors.

My improved pencil-box may be made of any suitable material—such as lacquered wood, hard rubber, or celluloid, in which case the collars b and d are preferably made integral with the box—or the boxes may be made of sheet metal, in which case the collars b and d are soldered to the body A, or they may be made of papier-mâché, in which

case the collars b and d are glued onto the body.

The pencil-box is attractive and interesting to children on account of the movable cylinder and the different figures shown through the apertures as it is rotated. It will assist children in learning the multiplication-tables, as a child cannot arrive at an incorrect result or product by any manipulation of the device.

The box combines instruction and amusement in one structure and can be manufactured, owing to its simple construction, at but a slight increase in cost over the ordinary pencil-boxes. It is obvious that the same principle can be applied to a greater number of multipliers and multiplicands and that it can also be applied to other hollow bodies—such as kaleidoscopes, confectionery-boxes, and other cases—or the principle may be applied to a solid body having a solid handle in place of the hollow cap of the pencil-box, in which case the instrument may be made of larger size, and, with its greater range of multiplication, be of practical use for office and other purposes.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A pencil-box, comprising a body, the surface of which is provided with figures representing the products of the multiplication-table arranged in longitudinal rows, a collar on said body provided with a circumferential line of figures representing multiplicands arranged in line with the rows of products on the body, and a rotary cylinder applied to the body of the pencil-box and provided at one end near the collar with a circumferential line of figures representing multipliers and with apertures, one for each row of figures on the circumference of the body, said apertures being arranged in a helicoidal line, any given aperture exposing the product of the number on said collar and the number at the end of the cylinder in vertical alinement with such aperture, substantially as set forth.

2. A pencil-box, comprising a body, the circumference of which is provided with longitudinal rows of figures representing the products of the multiplication-tables, collars on said body, one of said collars being provided on the circumference with figures representing multiplicands, said figures being arranged in line with the rows of figures on the body of the box, and a rotary cylinder adapted to turn between said collars on the body of the pencil-box, said cylinder being provided at its circumference adjacent to the collar carrying the multiplicands with figures representing multipliers, and with apertures arranged in a helicoidal line on said cylinder, any given aperture exposing the product of the number on said collar and the number at the end of the cylinder in vertical alinement with such aperture, said apertures starting at the lowest multiplier and continuing one

for each circumferential figure in the helicoidal line so as to permit a reading off of the products of the multiplication-table for each multiplicand and multiplier arranged on the collar and adjacent end of the cylinder, substantially as set forth.

3. A pencil or other box, consisting of a body provided with a longitudinal row of figures representing the products of the multiplication-tables, a collar on said body provided on its circumference with figures representing the multiplicands of said products, said figures being arranged in line with the rows of figures on the body, a guide-collar at the end of the body and a rotary cylinder placed on the body between said collars, and provided at its circumference, adjacent to the collar carrying the multiplicands, with corresponding figures representing multipliers,

said cylinder being provided with as many apertures as there are multipliers, said apertures being arranged in line with the consecutive multipliers, and in a helicoidal line on said cylinder, so as to exhibit the corresponding products of the multiplication-table for each multiplier and multiplicand on the cylinder and collar, any given aperture exposing the product of the number on said collar and the number at the end of the cylinder in vertical alinement with such aperture, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

STANISLAS SZENHAK.

Witnesses:

KAROL KUGDAN,
MAEJAN WODOWSKI.