

(No Model.)

T. HOOLY.
EDUCATIONAL APPLIANCE.

No. 463,230.

Patented Nov. 17, 1891.

Fig. 1.

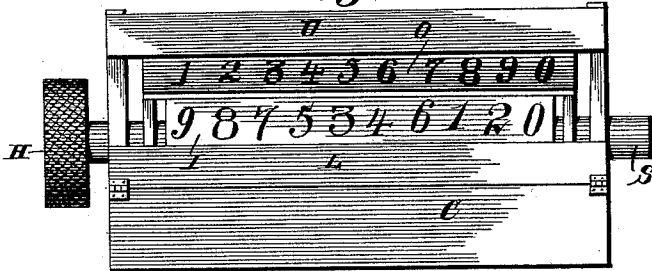


Fig. 3.

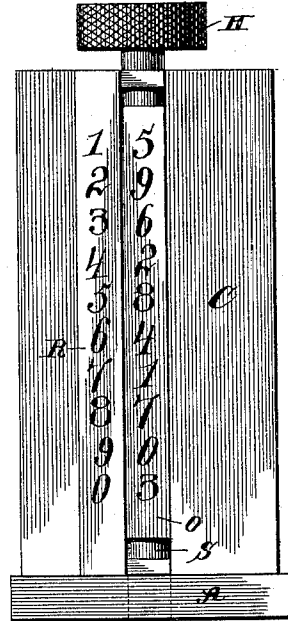


Fig. 2.

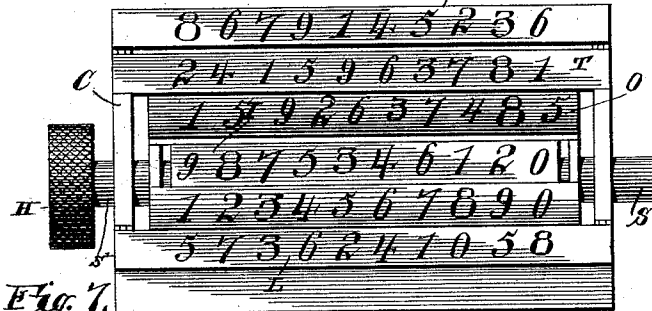


Fig. 7.

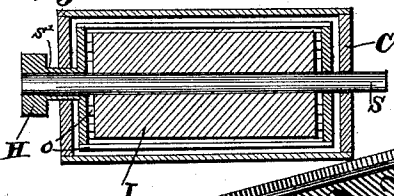


Fig. 4.

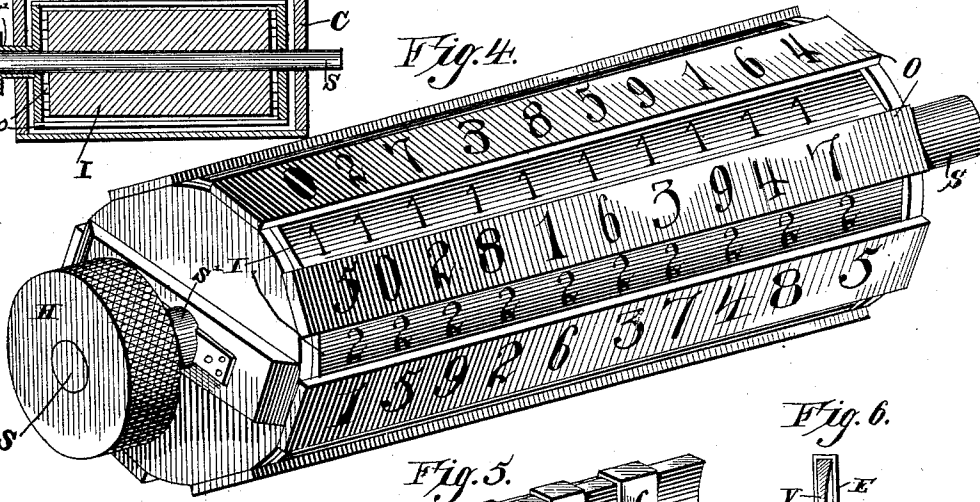


Fig. 6.

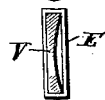
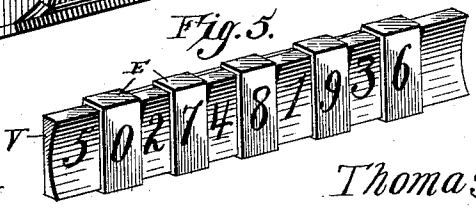


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS HOOLY, OF DAVENPORT, IOWA.

EDUCATIONAL APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 463,230, dated November 17, 1891.

Application filed December 31, 1890. Serial No. 376,380. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HOOLY, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented a new and useful Educational Appliance, of which the following is a specification.

This invention relates to educational appliances; and the object of the same is to effect certain improvements in devices of this character.

To this end the invention consists, broadly speaking, of a casing within which revolves a closed cylinder within another, the latter provided with openings and the casing and the cylinders inscribed with figures or words, as well as of certain details of construction, all as hereinafter more fully described and claimed, and as illustrated in the sheet of drawings, wherein—

Figure 1 is a front elevation of this improved device. Fig. 2 is a similar view, showing the two doors or flaps open. Fig. 3 is a rear elevation of the casing stood upon one end and the rear door open. Fig. 4 is a perspective detail of the two cylinders removed from the casing. Fig. 5 is an enlarged perspective detail of the sliding strip. Fig. 6 is an end elevation of Fig. 5, and Fig. 7 is a central longitudinal section of the device.

Referring to the said drawings, the letter C designates a casing, which is preferably of about the construction shown and having an opening in its front, above and below which are upper and lower doors U and L, and on the back of the casing is a narrow opening closed by a rear door R. Within and longitudinally of the casing is journaled an inner cylinder I and an outer cylinder O, the ends of the latter revolving upon and around the solid shaft S of the former, and one of them being provided with a short tubular shaft S', having a handle H projecting through one end of the casing, while the shaft S of the inner cylinder projects through the other end of the casing and forms a handle therefor.

The letter A designates a base or block adapted, as in Fig. 3, to rest upon a support, and this base has an opening which under these circumstances receives the shaft S of the inner cylinder, thereby supporting the entire device, yet permitting the rotation of

the cylinders. The inner cylinder is solid, whereas the outer cylinder is composed of end pieces connected by a number of strips spaced so as to leave openings between the strips. These openings and the strips are of the same width as each of the doors and of one-half the width between the adjacent edges of the upper and lower doors when they are closed, as in Fig. 1. The lower door on being opened exposes another strip or opening on one cylinder, whereas the upper door on being opened discloses a stationary strip T along the top of the casing.

Upon the inner cylinder are marked rows of figures, ten in each row, there being, preferably, one complete row of each figure, one blank row, and several other rows in which the figures are promiscuously arranged. Upon the strips of the outer cylinder, upon the inner faces of the doors, and upon the top strip T are also arranged promiscuous lines of figures. In addition, upon the outer cylinder (and, in fact, upon the inner cylinder also) may be arranged lines of figures which will stand in vertical rows when the device is stood upon end, as in Fig. 3, and, if desired, figures may also be arranged in this manner upon the inner side of the rear door, so that when this door is opened the cylinders can be turned to make various combinations of numbers, each having two figures. The doors U and L being closed, a single strip on the outer cylinder is exposed, and a row of figures may also be exposed through the opening in the outer cylinder. By turning down the lower door the figures thereon are exposed as well as another strip or opening of the outer cylinder. By turning up the upper door U the row of figures thereon and on the top strip T are exposed, so that under the last condition six rows of figures are exposed. These figures may be added or any two rows may be exposed for subtraction or multiplication at the instructor's ingenuity.

In order to effect even a greater number of combinations of figures, I preferably provide upon the outer cylinder one or more of the concave strips V (best seen in Fig. 6) marked with figures upon its concave face, and sliding upon each of such strips is a sheath E, having alternate strips and spaces in its face. When this sheath is moved by hand longitudinally upon the concave strip V, the cross-

strips of the sheath will cover different figures on the concave strip, and if the latter be marked thereon with chalk the cross-strips will not efface it. Said cross-strips being provided with figures on their faces, a great variety of combinations can be made. All the figures above mentioned may be either painted upon the device or the latter may be of such material and color that the figures can be marked thereon with chalk.

It is possible to use this device for the teaching of letters, words, sentences, grammar, languages, and various other studies, and I reserve the right to make the necessary trivial changes in structure and relative proportion of parts whereby this may be effected.

What is claimed as new is—

1. The combination, with the casing having an opening, a strip along one side thereof, and a door hinged to the outer edge of the strip and adapted to close over the same, of a cylinder within the casing and marks upon the cylinder, upon the outer face of said strip, and upon the inner face of said door, as and for the purpose set forth.

2. The combination, with a concave strip adapted to receive figures in chalk on its con-

cave face, of a sheath comprising a closed back in rear of said strip, and separated strips extending across the face of the concave strip, having figures on their faces and connected at their ends to said back, as and for the purpose set forth.

3. The combination, with a casing having an opening, doors at the sides thereof, a solid cylinder journaled in the casing, figures marked on the casing adjacent its opening and on the cylinder, and end pieces journaled on the shaft of said cylinder, of concave strips connecting said end pieces, having figures on their outer faces, sheaths comprising closed backs in rear of said strips, and separated strips extending across the faces of the concave strips, having figures on their faces and connected at their ends to said backs, as and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

THOS. HOOLY.

Witnesses:

J. H. CUMP,

GEORGE W. ASHTON.