(No Model.)

W. F. HOPKINS.

ALPHABETICAL TOY.

No. 346,656. Patented Aug. 3, 1886.

Fig. 2.

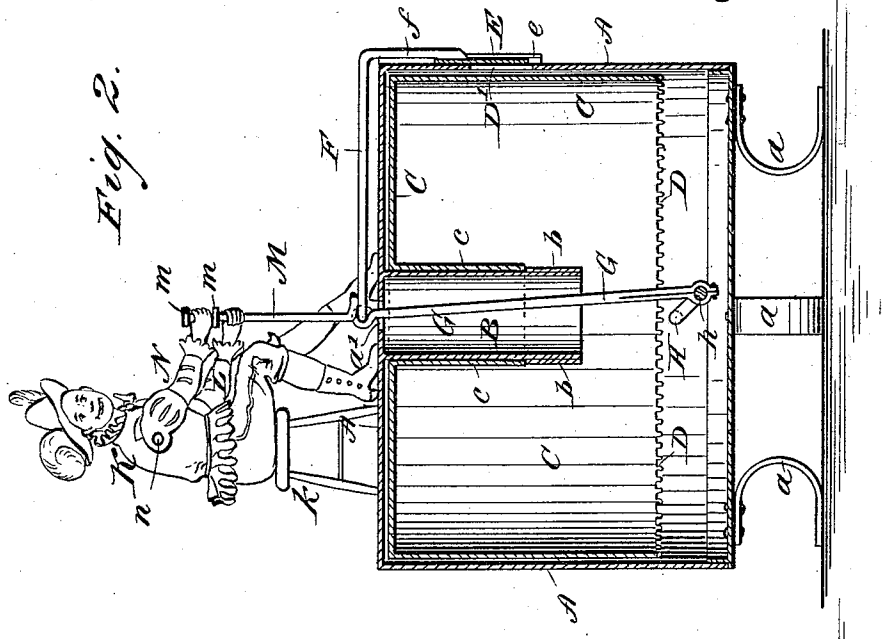
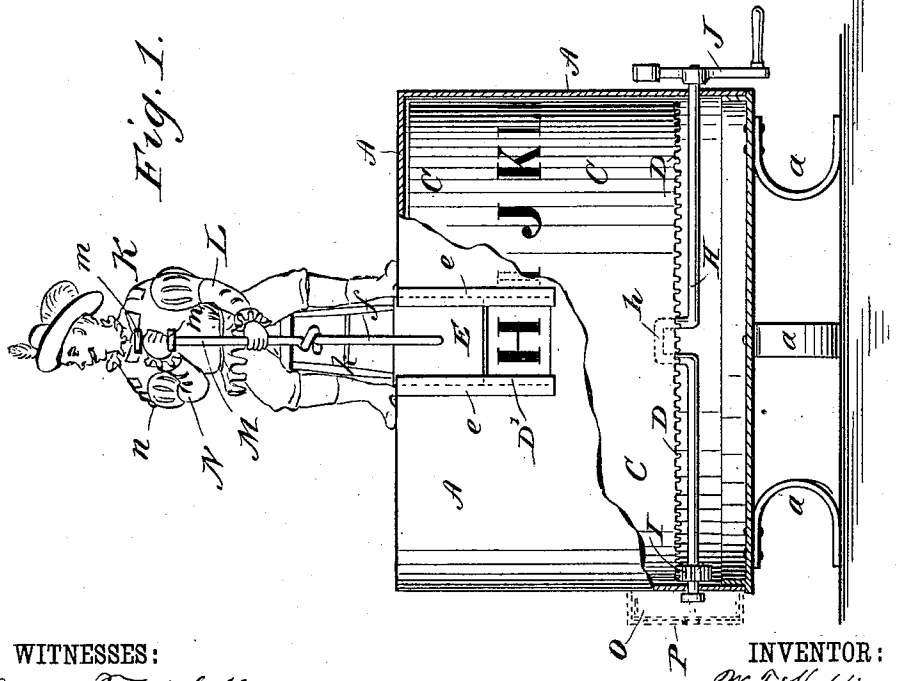


Fig. 1.



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ALPHABETICAL TOY.

SPECIFICATION forming part of Letters Patent No. 346,656, dated August 3, 1886.

Application filed April 28, 1886. Serial No. 200,440. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM FRANCE HOPKINS, of Sturgis, in the county of Lawrence and Territory of Dakota, have invented a new and Improved Alphabetical Toy, of which the following is a full, clear, and exact description.

My invention relates to a device for use in learning the alphabet and numerals, and has for its object to make the study of these attractive to the pupil, and thereby promote proficiency in acquiring this primary knowledge.

The invention consists in certain novel features of construction and combinations of parts of the alphabetical toy, all as hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a front view of the toy with the outer case partly broken away and in section; and Fig. 2 is a vertical sectional view of the toy, taken at right angles to Fig. 1.

The outer circular case, A, of the toy is preferably supported on suitable legs, *a*, at a convenient height, and is provided at its inside and center with a fixed pendent tubular bearing, B, on which is fitted loosely the pendent sleeve *c* of an inner case or cylinder, C, which fits loosely around the inside of the case A, and is provided at and entirely around its lower edge with teeth D, forming a circular rack. A collar, *b*, fixed to the lower end of the bearing B below the sleeve *c* of cylinder C, holds the latter up to place in the case.

At the side of the case A, near its top, there is formed an aperture or opening, D′, over which a vertically-movable lid or cover-plate, E, is adapted to work in slideways *e e*, fixed to the case, and at the level of the opening D′ there are produced on and around the cylinder C, by painting or otherwise, the letters of the alphabet, and it may be the numerals also, and whereby, as the cylinder is turned, the letters and numerals will successively appear at the opening D′ of the case A, as will be understood from Fig. 1 of the drawings.

To the cover-plate E there is fixed the bent end *f* of a wire or rod arm, F, which passes over the top of the case A, and at its inner end is connected loosely with the upper end of a pitman, G, which passes down through an aperture, *a′*, at the center of the top of case A, and through the bearing B at its lower end is connected to the crank *h* of a shaft, H, which is journaled in and across the lower part of the case A, and has fixed to it a pinion, I, which meshes with the toothed rack D of the cylinder C. When a crank or handle, J, fixed to the end of the shaft H, is turned, the pitman G and arm F will be operated to alternately raise and lower the cover-plate E, to open and close the opening D′ in the case A, and at the same time the cylinder C will be turned at proper speed by the gearing D I, to move the letters on it to the opening D′, to display the letters successively to view as the plate E is raised.

In Fig. 1 the cover-plate is raised to display the letters, and in Fig. 2 the plate is lowered or closed to conceal the letters.

The reciprocation of the cover-plate E and the appearance of the letters at the opening D′ in succession, as the crank is turned by any one—a young child, for instance—give a peculiar interest to the study of the letters or numerals as they come to view, which is well calculated to insure the rapid and thorough learning of the letters and numerals.

To increase the interest of a child in the study of the alphabet, as above described, and consequently to increase the utility of the whole device, I place a figure, K, of a man on a seat, *k*, at the top of the case A. One arm, L, of this figure is fixed in an outstretched position, and through the closed hand of this fixed arm is passed loosely a rod, M, which extends downward and is connected to the arm F, or it may be to the top of the pitman G. The top of this rod M is held by collars *m m* to the hand of the other arm, N, of the figure, and this arm is pivoted at the shoulder to the body of the figure, as at *n*, and whereby, as the parts G F E are raised and lowered by the crank-shaft H, the arm N will also be raised and lowered, and it will appear as though the figure K were operating the arm F and cover-plate E, and thus add largely to the attractiveness of the device, and make the study of the symbols much less tedious and tiresome. The arm N of the figure may have a pivot-joint at the elbow, if preferred.

It is obvious that the figure of a man or wo-

man in other than a sitting posture may be attached to the rod M, and have one or both arms or the entire upper part of the body movable up and down with the rod M; or the figure of an animal may be substituted for a human figure, and be made to move in whole or in part by the rod, to increase the interest of a child in the study of the letters and numerals at the opening D′ of the case.

Instead of using the crank J to turn the shaft H, a coiled spring, O, fitted in a case, P, and connected at opposite ends to the shaft H and said case, as in dotted lines in Fig. 1, may be used, when wound up by a key, to give rotary motion to said shaft and the connected plate E and alphabet-cylinder C, as above described; or, if preferred, the spring may be wound up by turning the shaft backward by the handle J, instead of a key, and in either case, as the spring is wound up, the alphabet-cylinder C will be turned backward and the winding may be stopped, when the letter A will appear at the opening D′ of the case.

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

1. An alphabetical toy comprising a case, A, provided with an opening, D′, a plate, E, adapted to cover and uncover said opening, a cylinder, C, fitted to rotate within the case A, and provided with the alphabet and numerals, either or both, and mechanism for rotating the cylinder C and simultaneously operating the cover-plate E, substantially as described, for the purposes set forth.

2. The combination, in an alphabetical toy, of a case, A, provided with an opening, D′, a sliding plate, E, adapted to said opening, a cylinder, C, fitted to rotate in case A, and provided with the alphabet and numerals, either or both, a toothed rack, D, on cylinder C, a cranked shaft, H *h*, journaled in the case A, a pinion, I, on said shaft meshing with rack D, and a pitman, G, and arm F, connecting the crank *h* of shaft H with the sliding cover-plate E, substantially as described, for the purposes set forth.

3. An alphabetical toy comprising a case, A, having an opening, D′, a cover-plate, E, adapted to said opening, a cylinder, C, fitted to rotate within the case A, and provided with the alphabet and numerals, either or both, mechanism for rotating the cylinder C and simultaneously operating the cover-plate E, a figure mounted on the case A, and movable in whole or part, and connections from the moving parts of said figure to the cylinder and cover-plate operating mechanism, substantially as described, for the purposes set forth.

4. The combination, in an alphabetical toy, of a case, A, having an opening, D′, a cover-plate, E, fitted at said opening, a cylinder, C, in case A, and provided with the alphabet and numerals, either or both, and also having a rack, D, a cranked shaft, H *h*, pinion I, pitman G, arm F, a figure on case A, movable in part or in whole, and a rod, M, connecting the movable part of the figure with the arm F, substantially as described, for the purposes set forth.

5. In an alphabetical toy, the combination, with a case, A, having an opening, D′, and a sliding plate, E, of a pendent tubular bearing, B, provided with a collar, *b*, and a cylinder, C, having a sleeve, *c*, fitting on the bearing B above the collar *b*, and mechanism, substantially as specified, for operating the cylinder C and plate E, as and for the purposes herein set forth.

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