

(No Model.)

F. H. SMITH.
TOY AND ADVERTISING DEVICE.

No. 464,679.

Patented Dec. 8, 1891.

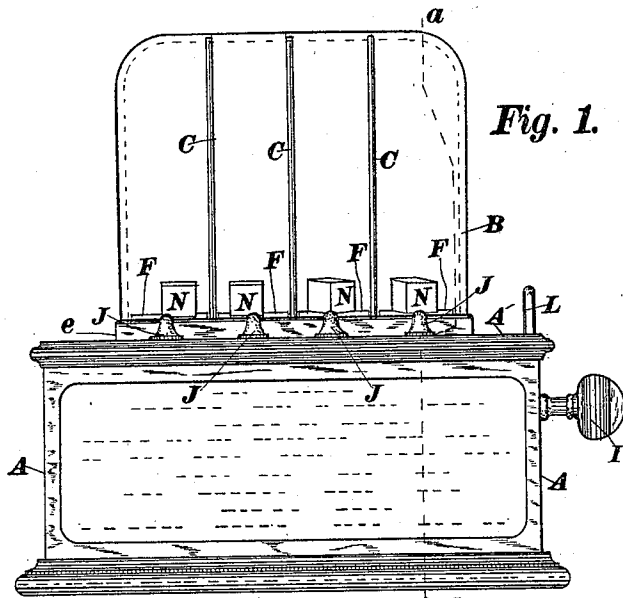


Fig. 1.

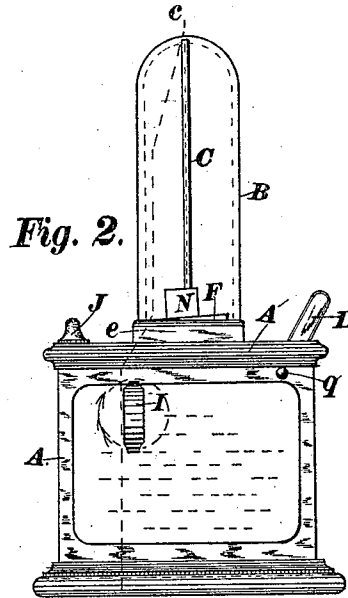


Fig. 2.

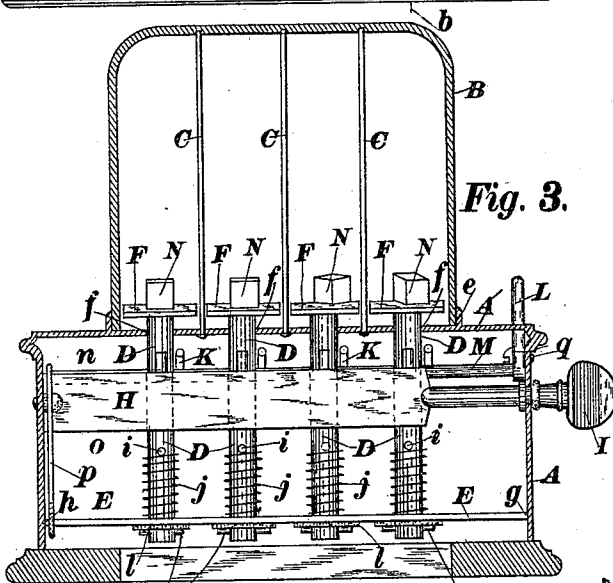


Fig. 3.

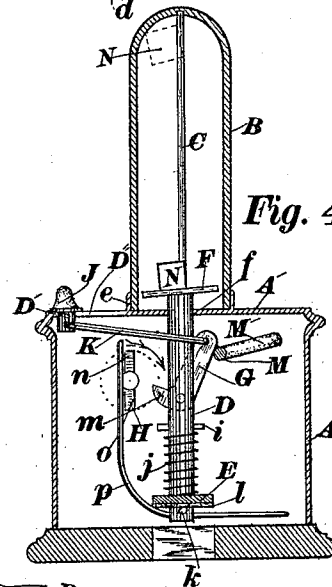


Fig. 4.

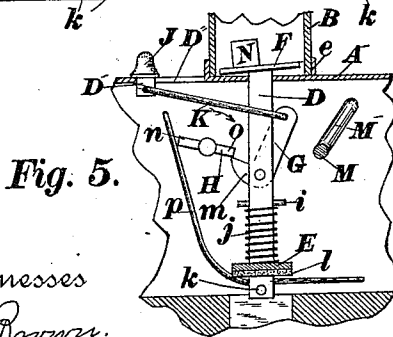


Fig. 5.

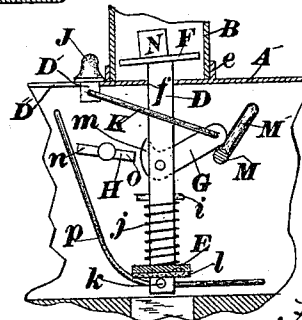


Fig. 6.

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UNITED STATES PATENT OFFICE.

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TOY AND ADVERTISING DEVICE.

SPECIFICATION forming part of Letters Patent No. 464,679, dated December 8, 1891.

Application filed May 28, 1891. Serial No. 394,383. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. SMITH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Toy and Advertising Device, of which the following is a specification.

My invention relates to that class of devices which are intended to amuse and instruct both the young and adults of both sexes in the acquirement of useful knowledge and can be used at the same time for advertising purposes.

My object is to provide a simple, durable, and inexpensive device which can be readily understood by the general public and which will give results not heretofore attained by anything of the kind yet introduced. I attain these objects by the following-described mechanism, in which—

Figure 1 is a front elevation; Fig. 2, a right-hand elevation of Fig. 1. Fig. 3 is a longitudinal section on line *c d*, Fig. 2; and Fig. 4 a transverse section on line *a b*, Fig. 1. Figs. 5 and 6 show the operative mechanism of Fig. 4, but in different positions to illustrate manner of operation. It will be noticed in all the sections that the greater part of the operative mechanism is shown in elevation.

Similar letters refer to like parts throughout the several views.

A is the case for containing the greater part of the mechanism and to the outside of which advertisements are attached.

B is a glass case, usually made of one piece, and is provided with rounded ends and top, and is secured to case A by means of a raised flange *e* or any other suitable means.

Within case B are rods C, placed in a vertical direction and having their lower ends attached firmly to the top A' of case A and their top ends inserted in holes made in the inside top of glass case B. Rods C act as guards to separate the length of case B into divisions, there being two or more of these divisions, as is found necessary.

The top of case A is perforated with holes *f* to suit the number of plungers D to be used in any given device of this construction, for in these holes the plungers are fitted so as to have a vertical sliding movement, as will be shown. The lower ends of the plungers are fitted in holes through a longitudinal guide-

piece E, whose ends are firmly attached to the inside ends of case A at *g* and *h*. Forming the top ends of plungers D is a small table F, placed on a slight inclination from a right angle with the length of plungers D, Fig. 4. Near the center of length of plungers D is a pin *i*, against which the top end of a spring *j* presses, the lower end of the spring bearing against the top of guide-plate E, and thus operating to hold the plungers upward with the pins *k* at their lower end against the rubber washer *l*, which contacts against the lower side of guide-plate E. Part of the upper halves of plungers D is slotted longitudinally entirely through the plungers, and in the slots are pivoted elbow-levers G, one lever to each plunger.

In front of plungers D is a flat piece of metal H, Figs. 3, 4, 5, and 6, which acts as a "wiper," and which name I will hereinafter term it. This wiper has round journals affixed to it at each end, which turn in bearings through the ends of case A. At the right-hand end, Figs. 1 and 3, the journal is prolonged, ending in a thumb-nut I, which can be grasped by the fingers to revolve the wiper. The short arm *m* of elbow-lever G projects forward toward the revoluble flat wiper H sufficient to permit the edges *n* or *o* thereof to engage short arm *m* when the wiper is revolved. There is a spring *p* whose lower end is attached to the end of case A inside, and the top end thereof bears against the wiper-piece H, Figs. 3 and 4, causing H to stand in a vertical direction when not being operated.

There is a series of slide-buttons J, one button for each plunger D, and these buttons have a position in front of each plunger, and their downward-projecting shanks D' operate in transverse slots D'', which are cut through the top A' of case A from near the front of the top backward. To the lower end of the shank of each button, inside of case A, is pivotally secured a short rod K, whose rear end is pivotally attached to the top end of elbow-levers G, Fig. 4.

To the right-hand end of the case A, inside and at the rear near the top, is pivotally secured at *q* a lever L, whose top end projects up through a transverse slot in the top of case A, and to the lower end of this lever L is firmly attached a rod M, which extends almost the length of case A inside in a horizon-

tal direction until it is near the opposite end of the case, where it is bent upward to form a crank M' of the same length as lever L from its pivotal center to where rod M is secured, the extreme end of the rod being bent again to form a journal which operates in a hole in the end of case A directly opposite the pivotal center *q* of lever L. By this construction rod M is caused to vibrate in unison with lever L similar to the wrist-pin of a double crank, the rod M vibrating far enough from its pivotal centers to contact with the rear of elbow-levers G, for the purpose as will be shown.

Upon the top of tables F above plungers D are cubes N, one cube to each table; but these cubes can be substituted by bodies of some other conformity, if necessary. In this case, however, the cubes shown are to be marked with letters of the alphabet on their six faces, and the cubes so disposed relative to each other as to spell various words, or the cubes can be marked with words to form sentences and be operated in the manner as will be described.

When letters are used, the cube in the first division at the right, Fig. 1, is marked with letters which will spell words of two letters with the cube in the second division, the third cube marked to spell words with cubes numbers one and two of three letters, and with cube number four words having four letters, and so on with any additional cubes, for it is intended to have in practice not less than six divisions, so that six cubes can be used. In operation the thumb-nut I is turned to the right, which causes the wiper-piece H to revolve in the direction of the arrow, Figs. 4 and 5, until the outer edge *n* or *o* contacts with the short arms *m* of elbow-levers G, which motion, if continued, will press the plungers downward against the upward pressure of the springs *j* until the edge of piece H by its circular motion disengages from the arm *m*, when by the action of springs *j* the plungers will be suddenly forced upward until arrested by the pins *k* contacting with the rubber washers *l*, and in the meantime the cubes N will be projected suddenly above tables F against the rounded top of glass case B and turned so that when they fall back upon the tables almost any one of the six faces of the cube will be at the top to be read. By giving the thumb-nut I one-half turn the cubes on all the tables are caused to jump upward, strike the top of case B, and fall again to tables F; but should it be necessary, say, in a device having either eight or twelve cubes, to spell words of a less number of letters than the whole number of cubes, the cubes not in use can be cut out, or the plungers which bounce them upward can be made inoperative by simply pushing buttons J backward, which causes elbow-levers G, through rod K, to take a position shown in Fig. 6, and its short arm *m* held out of the reach of the edges *n* or *o* of wiper H, when it is revolved. Either one or any num-

ber of the cubes can be cut out in this manner by each plunger being furnished with a cut-out button J. Any separate plunger can again be thrown into action by simply pulling its button forward again, so that the short arm *m* of elbow-lever G can be contacted by the edges of piece H. If it is necessary to slide forward all the cut-out buttons at once, it can be done by pressing backward from left to right, Fig. 2, upon the top of lever L, which will cause the rod M within case A to vibrate forward and contact with every elbow-lever G in the series which is thrown back in the position shown in Fig. 6, when a further pressure backward on lever L will force all the levers G up to the position shown in Fig. 4, when lever L can be released and by gravity rod M will fall back to the position shown in Fig. 5. Fig. 4 shows plainly the inclined position of table F. When the cube N is bounced to the top of case B, it will strike in an inclined position, as shown by the dotted lines at the top of case B, which will be more likely to cause the cube to turn wholly or partially over than if table F had a horizontal position.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In the device hereinbefore described, one or more vertically-operating plungers D, cubes N, imposed upon the top or tables of said plungers, said cubes operated within a case B, said case having a separate compartment for each cube, an elbow-lever G, pivoted to each plunger, a revolving wiper H, operating against one of the arms of said elbow-lever to draw said plungers downward, a spring *j*, operating said plungers upward, and the other arm of said elbow-levers connected with a push or slide button J, for the purpose substantially as described.

2. In the device hereinbefore described, in combination with vertically-operating plungers D, the top or inclined tables F of said plungers, and cubes N, resting upon said tables, said cubes operated within case B by plungers D against the rounded top of said case, for the purpose described.

3. In the device hereinbefore described, one or more vertically-operating plungers D, cubes N, imposed upon the top or tables of said plungers, said cubes operated within a case B, an elbow-lever G, pivoted to each plunger, a revolving wiper H, operating against one of the arms of said elbow-levers, as described, to draw said plungers downward, a spring *j*, operating said plungers upward, and the other arm of said elbow-levers connected with a push or slide button J, all the elbow-levers G in the series capable of being operated by the described and pivoted rod M, said rod operated by lever L, in the manner and for the purpose described.

FRANK H. SMITH.

Witnesses:

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