

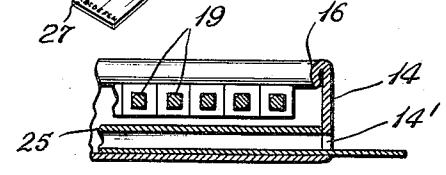
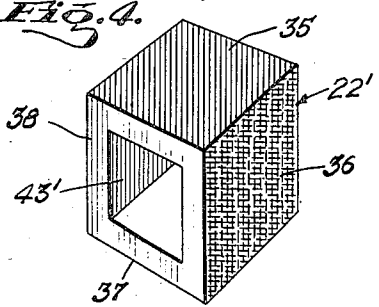
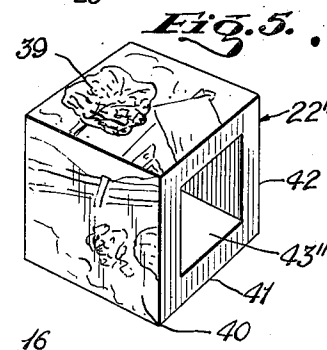
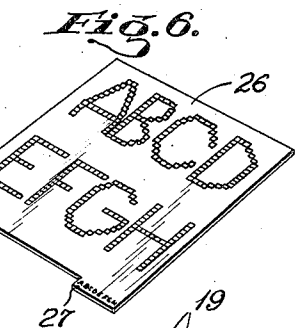
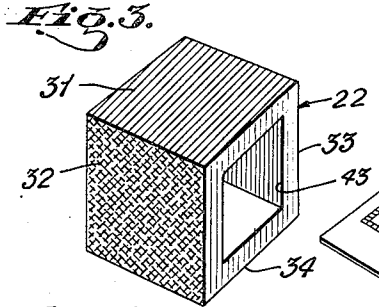
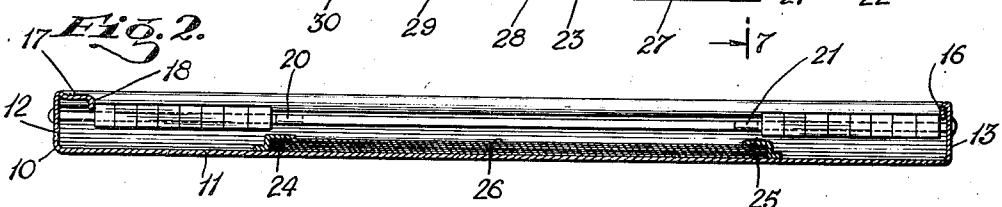
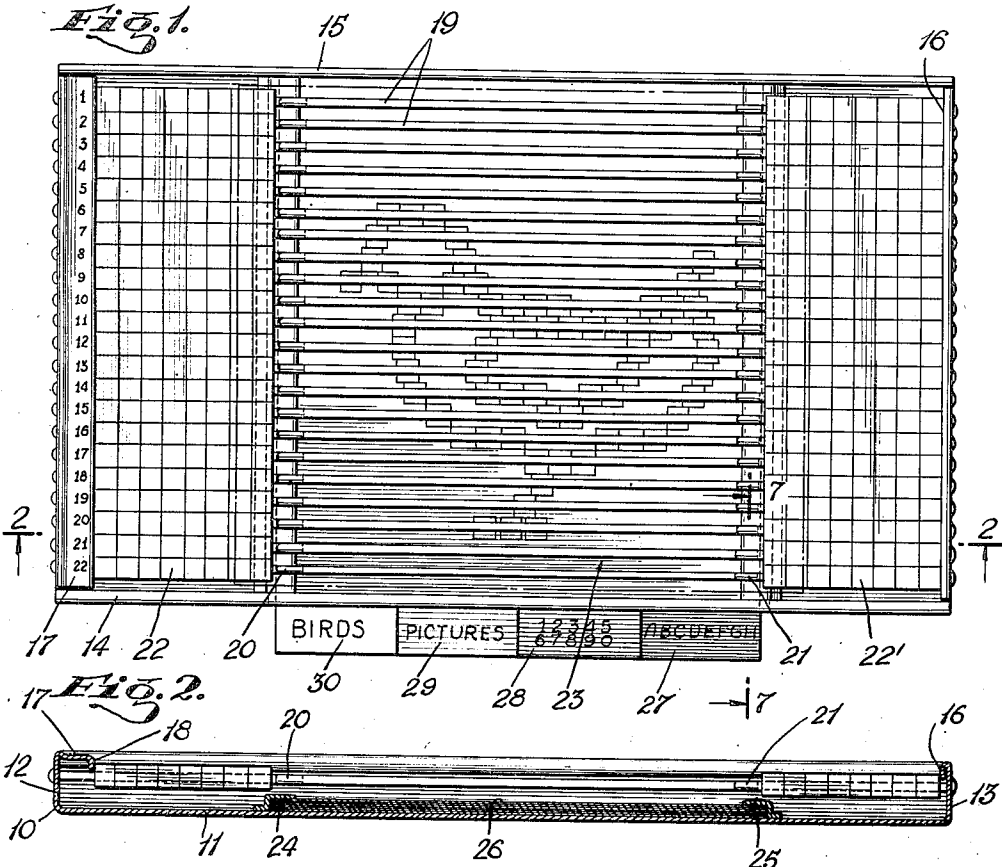
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EDUCATIONAL DEVICE

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# UNITED STATES PATENT OFFICE

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## EDUCATIONAL DEVICE

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6 Claims. (Cl. 35—28)

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This invention relates to devices intended to be educational as well as amusing and entertaining to both young and old. More particularly, the invention deals with a device having means for supporting a multiplicity of game pieces having different characterizations thereon for movement into what may be termed a playing or operating field where numerals, alphabetical characters, picture representations of various kinds and classes or puzzles can be constructed. Still more particularly, the invention deals with a device of the character described having means for supporting pattern sheets or boards beneath the playing or operating field to guide the positioning of the game pieces or characterized elements in the field in producing predetermined reproductions therein. The novel features of the invention will be best understood from the following description when taken together with the accompanying drawing in which certain embodiments of the invention are disclosed, and in which the separate parts are designated by suitable reference characters in each of the views, and in which:

Fig. 1 is a plan view of one form of device which I employ in carrying my invention into effect.

Fig. 2 is a section substantially on the line 2—2 of Fig. 1.

Fig. 3 is a perspective view of one type of block which I employ.

Fig. 4 is a similar view showing a similar block with different markings thereon.

Fig. 5 is a view similar to Figs. 3 and 4 indicating other characterizations on a block.

Fig. 6 is a perspective view of one of the pattern sheets which I employ; and

Fig. 7 is a section partially on the line 7—7 of Fig. 1, on an enlarged scale, and showing only one card mounted in the frame of the device.

It is the purpose of my invention to provide a suitable frame or holder for supporting a plurality of rods or strands of any type or kind for guiding and supporting one of a number of characterized game pieces or elements to be moved onto what may be termed a playing or construction field, in producing in this field by arrangement of said game pieces or elements, contours defining characters of the alphabet, numerals, various types and kinds of pictures or reproductions of objects, as well as to so characterize the game pieces or elements as to produce in a single playing or construction field, four distinct picture representations or what might be termed puzzles simulating in some respect the well known

"jig-saw puzzle," except that successful completion of the puzzle is not dependent upon the shape or contour of the respective puzzle pieces, but rather the position of the puzzle pieces as arranged upon the guide or supporting rods or strands. Further, it is desirable to arrange beneath the playing or construction field, means for supporting one of a number of different cards which may be regarded as pattern or temple cards to guide a child in positioning the game pieces or element on the field in order to produce reasonably accurate reproductions of the character, object or thing represented on the card.

In forming the game pieces or elements, they may be characterized on different outer surfaces to represent different colors, or portions of different pictures, and in the latter case, color combinations may also be incorporated with the picture portion representations on the surfaces of said elements.

In the present adaptation of my invention, as shown, I provide what may be termed a tray-like casing 10, comprising a bottom wall 11, upstanding side walls 12 and 13 and corresponding upstanding front and rear walls 14 and 15. The front and rear walls 14 and 15, as well as the side wall 13, have inturned edges, as most clearly seen, for example, at 16, in Figs. 2 and 7 of the drawing. Whereas the side wall 12 has an inwardly extending top wall portion 17 terminating in a downwardly extending flange 18, note Fig. 2.

The wall portion 17 forms a forwardly and backwardly arranged strip upon which numerals may be applied, as clearly indicated in Fig. 1, to designate the number of guide and supporting rods or strands 19 employed, twenty-two being employed in the construction. These rods or strands are supported in the side walls 12 and 13 and are for the most part square in cross sectional form, except for the rounded portions designated at 20 and 21, arranged at a predetermined distance inwardly of the walls 12 and 13 and dividing the rods into supporting ends on which square and tubular game pieces or elements 22 and 22' are normally positioned or stored. Between the rounded portions 20 and 21, the longer parts of the rods form what I term a playing or construction field 23, this field is also partially defined by two guide strips 24 and 25 arranged beneath the rounded portions 20 and 21 of the rods and extending between the front and back walls, forming upon the bottom wall 11 guide channels for a number of cards or sheets

The cards or sheets are all substantially of the same size, but would differ one from the other in having projecting characterized tabs located in different positions at one edge thereof so as to be visible for removal and repositioning in the frame and these tab portions of different cards are designated by the reference characters 27, 28, 29 and 30, which for purposes of illustration only, are indicated respectively as being letters of the alphabet, numerals, pictures or birds, the term birds might generally classify all type and kind of animal life. A large number of sheets or cards can be arranged in the frame or may be held in suitable containers, independent of the frame, and simply slid into position through an opening 14' formed in the front wall between the strips 24 and 25, as indicated in Fig. 7.

In Fig. 6 of the drawing I have indicated in perspective, one of the cards 26, the one having the tab 27 thereon, and on this card is arranged the letters of the alphabet "A to H" inclusive. Instead of this, each of such cards may have a single letter of the alphabet thereon or any desired combination. The same is also true of the other cards, for example, the card having the tab 30 shown in Fig. 1, which has the representation of a duck or similar bird thereon, the representation being such as to indicate positions of the elements 22 and 22' on the rods to give the bird the outline indicated.

While the elements 22 and 22' may have many different types and kinds of characterizations thereon, or combinations of characterizations, for purposes of illustration, I have shown two possible arrangements. In Fig. 3, I have shown elements which may be similar to the elements 22 and in Fig. 4 elements which may be similar to the elements 22'. Whereas in Fig. 5, I have shown at 22', elements which may be equivalent to either or both of the elements 22—22'. For example, let us say that the four surfaces of the element 22, shown in Fig. 1, has four different colors thereon, for example, the surface 31 brown, the surface 32 black, the surface 33 white and the surface 34 orange. This would give several of the commonly used colors in producing picture representations together with which may be associated the elements 22' on which are arranged, for example, the colors red on the surface 35, green on the surface 36, yellow on the surface 37 and blue on the surface 38. It will also be understood that it is not essential that all of the 22 blocks be arranged at one side of the frame when stacked, as shown in Fig. 1, nor that all of the 22' blocks or elements be arranged at the other side. Each rod may have at each side of the frame an alternate arrangement of the blocks 22 and 22'. On the other hand, all of the blocks 22—22', as characterized in Figs. 3 and 4, may be arranged at one side of the frame, and blocks similar to 22' arranged and grouped at the other side of the frame. The latter having parts of picture representations on the surfaces thereof, for example, the surface 39 would have part of one picture, the surface 40 part of another picture, the surface 41 part of a third picture and the surface 42 part of a fourth picture.

All of the elements 22—22'—22'' are tubular in form and have rectangular openings, as at 43—43' and 43'' for free sliding on the rods 19 while permitting rotation of the blocks or elements where the rounded portions of the rods are positioned, as at 20 and 21. It will thus be apparent that a block or element may be moved from its stored station to one of the round sec-

tions, rotated to bring the proper surface uppermost and then slid onto the playing or construction field 23 of the rods.

In addition to having color or picture markings on the blocks or elements, the blocks or elements may have other markings or characterizations of any type or kind. For example, the blocks or elements in each row may have a combination of vowels and consonants to enable the player to construct on each rod words or phrases for the purpose of spelling or in erecting a complete story on a predetermined number of rods by pre-arrangement of characters. For example, the complete series of blocks may be made in an assemblage to tell four complete and different nursery rhymes or even a greater number thereof, particularly where the rhymes are relatively short. On the other hand, by reading the frame from the bottom to the top edges, as herein described, or from the walls 14 to 15, any number of words can be spelled across the frame, words having twenty-two letters or less.

In this connection it will be understood that the size of the frame and the number of blocks and elements employed can be modified and varied to suit different conditions. In other words, by constructing a frame with a greater number of rods, every letter of an alphabet may be arranged across the frame, as well as a multiplicity of the vowels utilizing the different surfaces of each block or element.

In the present construction, the support or storage ends of the device have the rods of square cross sectional form. In this way, these ends may also be utilized to pattern or design opposed sides of the playing field or to the construction of characters or representations therein. It is preferred that the blocks or elements 21—21'—21'' be squared off to fit snugly but freely to slide one relatively to the other while maintaining a close proximity, particularly in forming a complete picture without unnecessary spacing between the complete assemblage of the blocks or elements. It will be understood that the elements cannot be turned in the storage ends or on the playing field, but only in the round sections 20 and 21 and in operation, each block is brought out individually and rotated on the round sections and then moved into position. Sufficient clearance is provided at the round section for individual turning of the blocks or elements.

It is to be understood that the foregoing illustrations are indicative in part as to the many possible uses and adaptation of the invention. Furthermore, the particular supporting frame herein disclosed is also illustrative of one adaptation of the invention and what might be termed a fairly complete arrangement. It is quite apparent that in simpler form of devices, one side portion of the device can be removed and the complete device will comprise a playing field and a single storage field, the latter being sufficiently large to store the required number of blocks or elements to produce representations indicated on the card.

It must also be apparent that pattern cards or templet cards are by no means necessary, as the device can be used by a child or older person in creating, by arrangement of the blocks or elements on the playing field, pictures or representations of any type or kind and in color combinations satisfying the taste of the individual operating the device. Here it must also be understood that in some instances, all of the blocks or elements employed may have a single neutral color

or combinations of colors, markings or characterizations can be employed on the different surfaces of the blocks or elements instead of carrying out the same character throughout all surfaces. For example, having the four different colors on a block or element or the four different markings, as seen in Fig. 5. It will also be apparent that the various blocks or elements may be constructed in any desired manner, and in some instances, may be formed from metal or plastic castings and with this thought in mind, the complete device can be produced at a nominal cost.

By reason of the structure of the blocks or elements and the ability to mount the same on square supporting and guide rods, it will be apparent that from a standpoint of production, groups of the elements can be colored on different surfaces or characterized by printing, lithographing or otherwise while held in a group assemblage, the latter is particularly true in forming the so called picture puzzle, where the complete group assembly would occupy substantially the playing field or area, as at 23. It is also preferred that the combination of the blocks or elements on the stored sections will substantially fill the playing field in order to accomplish this result.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A device of the class described comprising a tray-like casing having a bottom wall bordered by upstanding side and end walls, a plurality of rods supported on end walls of the tray in equal spaced relationship to each other and above the bottom of the tray to form in the tray a large playing section on said rods between the tray ends, means for detachably supporting pattern cards on the bottom wall of the tray beneath said playing section of the rods, a plurality of rectangular game pieces normally supported on the ends of the rods beyond said playing section, said game pieces being slidable longitudinally of the rods for movement onto the playing section, said game pieces being keyed to the rods when supported in the playing section, and means at end portions of the playing field of said rods for rotatably supporting the game pieces to position predetermined surfaces of the game pieces uppermost on the rods in said playing field.

2. An educational device of the class described comprising a frame, said frame having a playing section and a storage section, means for supporting a plurality of rods in spaced parallel relationship to each other in the frame to extend over said sections, said rods being of angular cross-sectional form at said sections said rods intermediate said sections having round portions, a plurality of game pieces apertured to snugly engage the cross-sectional contour of the rods at said sections and adapted to be normally stored at said storage section, means for supporting a pattern sheet beneath all of the rods at the playing section, said game pieces being movable along the rods and positioned on the playing section in positions guided by a pattern sheet in reproducing on the rods in the playing section a predetermined representation, said game pieces having multiple surfaces and each game piece being rotatable on the round portion of its supporting rod to position predetermined surfaces uppermost preparatory for arrangement of the game pieces in said playing section.

3. An educational device of the class described comprising a frame, said frame having a playing section and a storage section, means for sup-

porting a plurality of rods in spaced parallel relationship to each other in the frame to extend over said sections, said rods intermediate said sections having round portions, a plurality of apertured game pieces supported on each of said rods and adapted to be normally stored at said storage section, means for supporting a pattern sheet beneath all of the rods at the playing section, said game pieces being movable along the rods and positioned on the playing section in positions guided by a pattern sheet in reproducing on the rods in the playing section a predetermined representation, said game pieces having multiple surfaces and each game piece being rotatable on the round portion of its supporting rod to position predetermined surfaces uppermost preparatory for arrangement of the game pieces in said playing section, and the apertures of the game pieces conforming with the cross-sectional contour of the rods in the playing section in keying the game pieces against rotation on the rods when arranged in the playing section.

4. An educational device of the class described comprising a frame, said frame having a playing section and a storage section, means for supporting a plurality of rods in spaced parallel relationship to each other in the frame to extend over said sections, said rods intermediate said sections having round portions, a plurality of apertured game pieces supported on each of said rods and adapted to be normally stored at said storage section, means for supporting a pattern sheet beneath all of the rods at the playing section, said game pieces being movable along the rods and positioned on the playing section in positions guided by a pattern sheet in reproducing on the rods in the playing section a predetermined representation, said game pieces having multiple surfaces and each game piece being rotatable on the round portion of its supporting rod to position predetermined surfaces uppermost preparatory for arrangement of the game pieces in said playing section, the apertures of the game pieces conforming with the cross-sectional contour of the rods in the playing section in keying the game pieces against rotation on the rods when arranged in the playing section, and the contour of the game pieces on each rod and spacing of said rods being such as to arrange game pieces of adjacent rods in abutting relationship to each other.

5. An educational device of the class described comprising a frame, means for supporting a plurality of rods in spaced parallel relationship to each other in the frame, a plurality of apertured game pieces supported on each of said rods and adapted to be normally stored at one storage end portion of the rods, means for supporting a pattern sheet beneath all of the rods at a playing section of the device, each rod having, between the storage end portion and the playing section, a game piece shifting section, said game pieces being movable along the rods and positioned on the playing section thereof in positions guided by a pattern sheet in reproducing on the rods in said playing section a predetermined representation, the cross-section of the rods in the playing section and the apertures of the game pieces being common to key the game pieces against rotation, and the cross-section of the rods at the shifting section, providing free rotation of the game pieces thereon.

6. A device of the character described, comprising a frame, means for supporting a plurality of strandlike members in spaced parallel rela-

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tionship to each other in the frame to form of a portion of all of said members a playing field, another portion of said members forming a storage section, a plurality of characterized elements supported on the storage section of said members, 5 said elements being movable longitudinally of the members onto the playing field thereof, each element having circumferentially arranged different outer surfaces, the playing field and storage section of said members and portions of said elements 10 engaging said members having cooperating means keying the elements against rotation, and said members between said field and storage section having means permitting rotation of the elements on said members in controlling position 15 of surfaces thereof prior to movement onto the playing field.

ALEX PASCOO.

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