

(No Model.)

J. U. MACKENZIE.
PUZZLE.

No. 278,571.

Patented May 29, 1883.

Fig. 1.

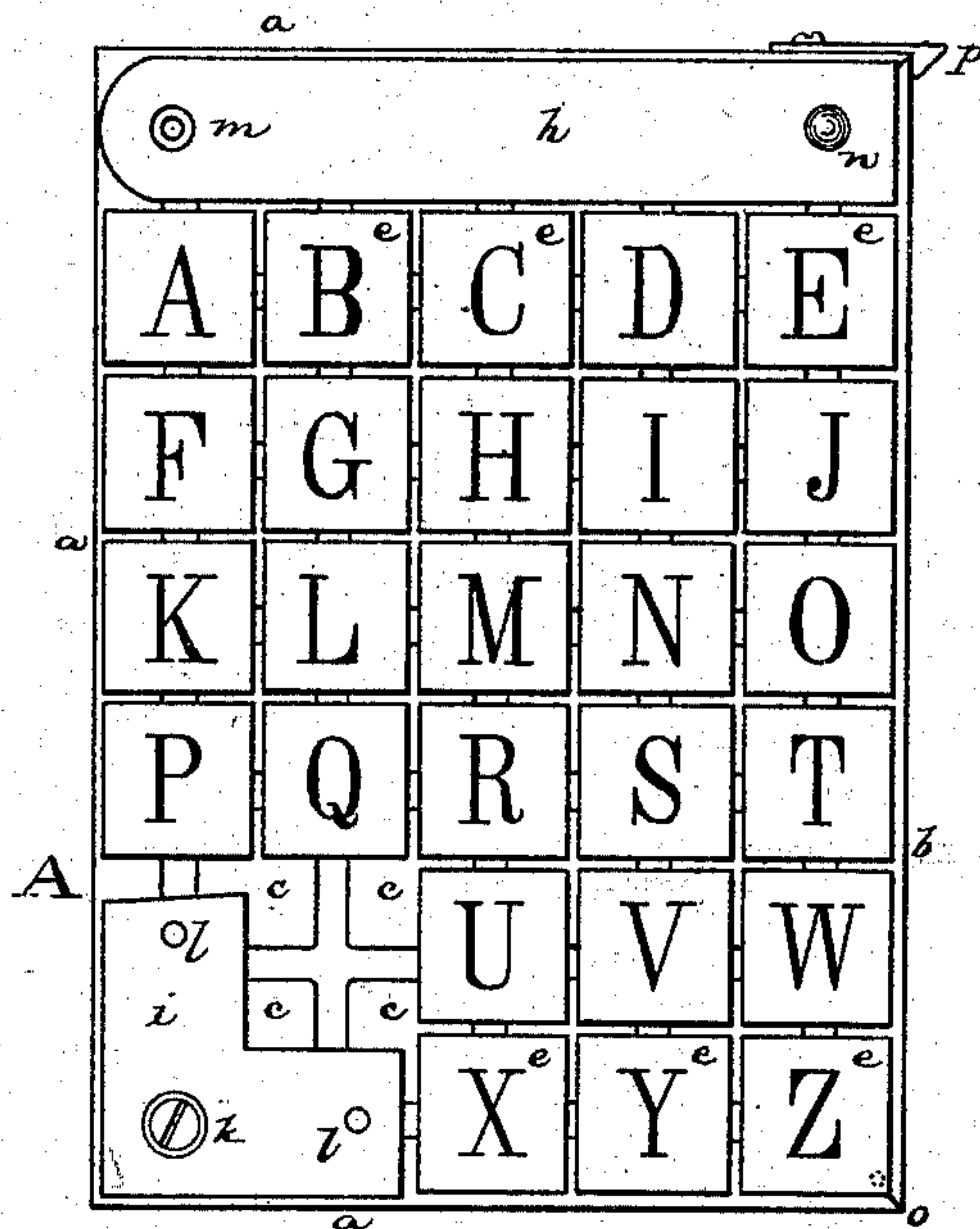


Fig. 2.

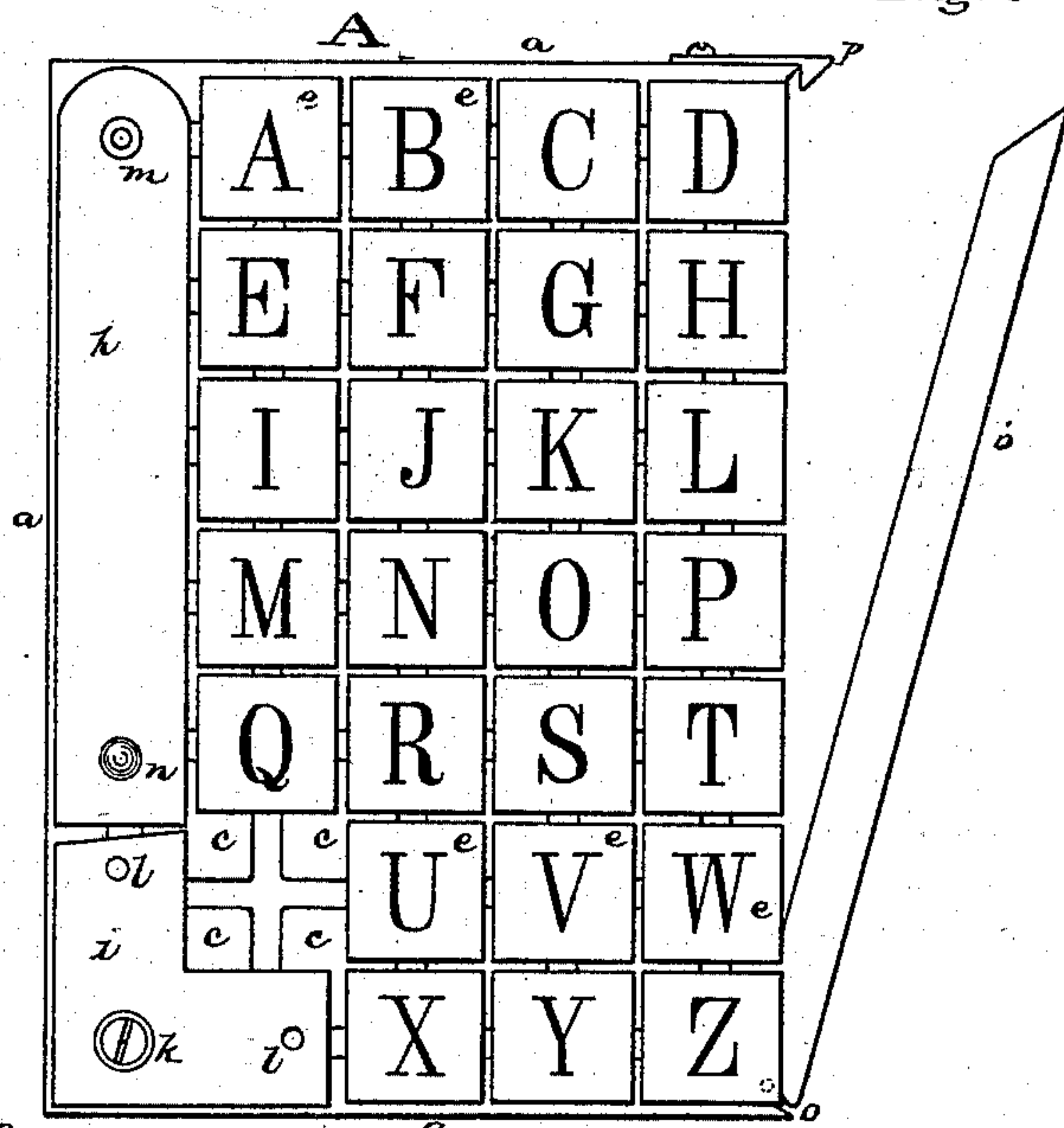


Fig. 4.



Fig. 3.

ATTEST:

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PUZZLE.

SPECIFICATION forming part of Letters Patent No. 278,571, dated May 29, 1883.

Application filed March 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES U. MACKENZIE, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Puzzles, of which the following is a specification.

My invention relates to puzzles in which the object to be attained is the formation of certain combinations by moving into proper positions blocks, disks, or other bodies bearing on their faces letters, figures, or other characters, my object being mainly to produce a new form of puzzle of this class, and also to so form and construct all the various parts and devices employed in such puzzles as to render them more convenient and effective for the purpose for which they are designed.

The new form of puzzle which I have devised consists of a number of pieces, each having marked or formed upon it an alphabetical character. These character-bearing pieces are placed in a suitable box or frame, or upon a suitable base, filling or covering such box, frame, or base, with the exception of a single space. This space permits the movement of the blocks, so that they may be placed in any position relative to each other to form any desired word or combination of words or letters.

I prefer to construct or arrange this apparatus in the following manner, it being understood, however, that the arrangements and devices below described are adapted for use with any puzzle of the class mentioned, as well as with my alphabetical puzzle:

A suitable flat base is provided, having raised and inwardly-overlapping edges. Upon this base are supported in parallel rows a proper number of blocks or plates, separated from each other, and raised by their supports to the same height as the edges of the box, a space being left entirely around each block and under its edges. The letter or character bearing pieces preferably consist of plates or blocks, on the upper faces of which the characters are formed. From the center of the under side of each plate or block extends a shank which has an enlarged head or is attached to another plate or disk. These character-carriers rest upon the raised stationary blocks, the shanks passing between said blocks, and the lower plates or enlargements entering beneath

their edges. I thus provide means preventing the removal of the character-bearing pieces, while at the same time allowing perfect freedom of movement, as the shanks pass readily through the spaces between the raised blocks. As the character-carriers cannot be removed, fraud or deception as to the accomplishment of the puzzle is prevented. I may, however, have one edge of the frame removably attached or hinged, so that the frame can be opened and the pieces slipped out, should it be desired to entirely rearrange them.

If the number of characters employed in the puzzle is too small to occupy the entire box in their movements, it is desirable to provide some means for filling the unoccupied spaces. I prefer also to make such means adjustable, so that spaces in different parts of the box may be filled up by them at different times. This adjustment changes the shape of the portion of the box in which the pieces are moved, thus allowing greater variety in the combinations which can be formed by such movements.

The parts of the puzzle may be made of tin or other metal, of wood, or of any suitable material. In making them of tin, the base, with its edges and raised portions, could be struck from one piece, and each character-bearer can be formed in one piece; or the base and the movable pieces could be cast from metal or from other substance, such as celluloid; or the character-bearing pieces might consist of two wooden parts united by a wooden or metallic shank, or of a wooden head, in which is inserted a metal rod or pin having an enlarged end; or they may be constructed in any other manner in which a piece having a flanged base for passing under the raised blocks of the base can be produced.

The above may be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is plan view of the puzzle; Fig. 2, another plan view with the adjustable block in a different position and the hinged side swung open; Fig. 3, a vertical section of the puzzle, and Fig. 4 a view of one of the character-bearing pieces.

A is the base, having raised and inwardly-overlapping edges *a b*. A number of square plates, *c c*, preferably with rounded corners,

are supported from said base upon pins *d*, or formed upon said base in any other suitable manner.

The character-bearing pieces consist each of
 5 a flat upper portion, *e*, having a shank, *f*, terminating in a disk, *g*, screwed into it. In the present case twenty-six of these pieces are employed, each bearing a letter of the English alphabet. It is evident, however, that two or
 10 more alphabets or parts of alphabets, or the alphabets of other languages than the English, could be used, the frame or base being made of sufficient size to contain them. It will be seen that the twenty-six pieces, with one space
 15 left for moving them, do not entirely cover the base. The remaining space is filled by the blocks *h* and *i*. The block *i* is stationary, being held by the screw *k* and pins *l l*, which enter the base. The block *h*, however, is adjustable, being pivoted at *m*, and held by a thumb-screw, *n*, which can be readily removed, so that
 20 the block may be placed in either of the positions shown. In Fig. 1 four rows of five pieces each are formed, so that, if desired, four words of five letters each may be spelled in one direction, while other combinations can be formed
 25 at right angles to these. In Fig. 2 five rows of four letters each are formed in the horizontal direction.

30 It is evident that other adjustable blocks could be employed should the form and size of the box render it desirable.

The edge *b* of the box is hinged at *o*, so that it may be swung open, and a spring-catch, *p*,
 35 for locking it when closed is provided. Thus all the letters can be slipped out, if desired. This arrangement may, however, be dispensed with.

Beneath the stationary block *i* the corners
 40 of one or more of the raised portions *c c* might be cut away, so that a sufficient space will be opened to allow the withdrawal of the movable pieces one at a time, the stationary block being first unscrewed. This may be employed
 45 instead of the hinged edge, if desired. In moving the pieces about upon the base any word or words which may be named or suggested can be formed.

It is evident that the details of construction shown and described may be greatly varied without departing from the spirit of my
 50 invention.

I am aware that puzzles have been in use in which pieces bearing numerical characters

have been placed within a frame, filling said
 55 frame except a single space, and also that alphabetical characters have been arranged to be moved to form combinations; but as far as I am aware no puzzle has heretofore been constructed in which alphabetical pieces were employed filling the frame or base with the exception of a single space.
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What I claim is—

1. A puzzle consisting of a number of pieces placed in or upon a suitable frame or base,
 65 each bearing an alphabetical character, and filling or covering such frame or base with the exception of a single space for allowing the movement of said pieces, substantially as set forth.
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2. In a puzzle, the combination of twenty-six movable pieces, each bearing a letter of the alphabet, with a frame or base having space sufficient for twenty-seven of such pieces, substantially as set forth.
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3. In a puzzle in which a number of character-bearing pieces are moved within or upon a suitable frame or base, the combination, with said frame or base and said movable pieces, of means for filling such spaces within or upon
 80 said frame or base as are unoccupied during the operation of the puzzle, substantially as set forth.

4. In a puzzle in which a number of character-bearing pieces are moved within or upon
 85 a suitable frame or base, the combination, with said frame or base and said movable pieces, of adjustable means for filling such spaces within or upon said frame or base as are unoccupied during the operation of the puzzle, substantially as set forth.
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5. In a puzzle, the combination of the frame or base having spaces unoccupied by the character-bearing pieces, with one or more pivoted blocks for filling said unoccupied spaces, substantially as set forth.
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6. In a puzzle, the frame or base provided with parallel rows of raised and separate blocks or plates forming parallel and intersecting grooves, in combination with character-bearing pieces having flanged bases movable between such rows, substantially as set forth.
 100

This specification signed and witnessed this 6th day of March, 1883.

JAMES U. MACKENZIE.

Witnesses:

H. W. SEELY,
 E. H. PYATT.