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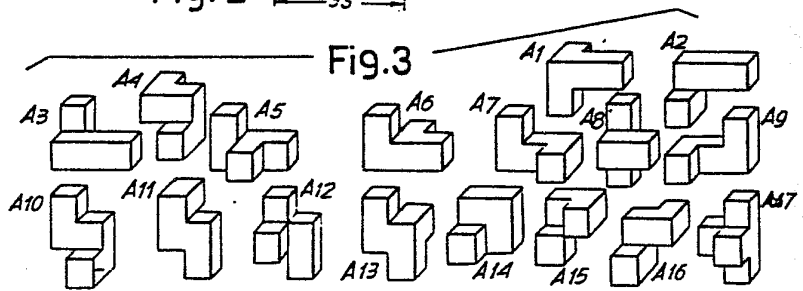
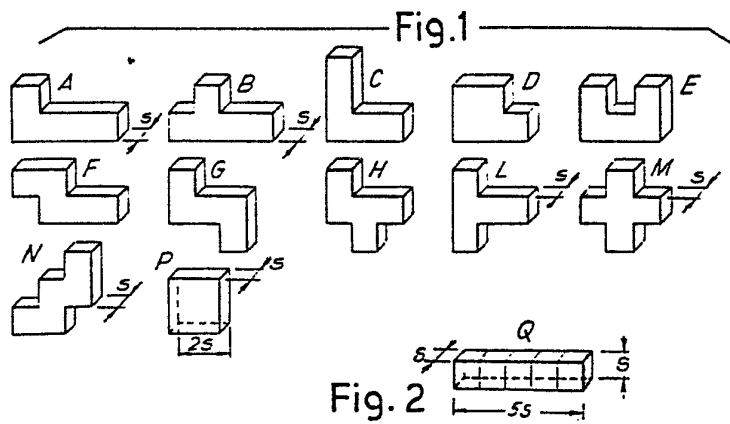
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⑤④ **Play set for game of skill with pieces formed by cubes.**

⑤⑦ The play set comprises a plurality of pieces (A ... P) having fixed shape, each of which is ideally made up of a number of variously disposed cubes, with at least a face in common, and at least a piece (Q) of variable shape and actually made up of a number of cubes (R) variously matchable between them for taking up a number of shapes, always with a face in common; said pieces of fixed and variable shape being combinable between them to generate various spatial patterns.



SPECIFICATION

The invention provides a play set for games of patience, skill and reasoning.

Substantially, said play set comprises a plurality of pieces having fixed shape, each of which being ideally made up of a number of variously disposed cubes with at least a face in common, and at least a piece of variable shape actually made up of a number of cubes variably matchable between them for taking up a number of shapes, always with a face in common; said pieces of fixed and variable shape can be combined between them to generate various spatial patterns.

All pieces having fixed shape have a flat form with a thickness equal to that of the cube side.

In one embodiment of the invention, the pieces having fixed shape are twelve, eleven of which being ideally made up of five cubes and one of which being ideally made up of four cubes.

The play set may comprise at least a piece of variable shape made up of five cubes variably matchable between them.

The cubes of a piece having variable shape may be connected between them by an elastic band which goes through them through a passage formed at least by a cut

along which the elastic band can be moved. The elastic band may pass through a hole formed between the bottom of a cut and the wall opposite thereto. In another embodiment, one of the cubes may have two crossed cuts arising from the same face. In a further embodiment, one of the cubes may have two cuts arising from two opposite faces and lying in orthogonal planes.

The cubes making up the piece of variable shape may be magnetized for connection or may be connected by restraining joints.

According to the illustrated embodiment, the play set comprises thirteen pieces, twelve of which are of fixed shape, as shown in Fig. 1, and are indicated with A, B, C, D, E, F, G, H, L, M, N, P. Each piece is geometrically formed by the junction of a number of like cubes having unitary thickness \underline{s} and at least a face in common; the pieces A, B, C, D, E, F, G, H, L, M, N are ideally obtained by the junction of five cubes, while the piece P is obtained by the junction of four cubes only, in order to form a square base parallelepiped with a height equal to \underline{s} . A thirteenth piece Q is really made up of five cubes and its shape may vary from its primary shape Q shown in Fig. 2 to at least one of the other twenty-eight combinations that can be obtained by joining five cubes by putting in common one or more faces. In Fig. 3,

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seventeen possible three-dimensional combinations are shown designated by A1,A2,A3,A4,A5,A6,A7,A8,A9,A10,A11,A12,A13,A14,A15,A16,A17; to these ones, the forms or conformations A,B,C,D,E,F,G,H,L,M,N, shown in Fig. 2, can be added.

A mechanism for assembling the piece Q is illustrated in Figs. 4 and 5. The piece Q is made up of five cubes R, and each cube - as seen in Fig. 6 - has a cut R1 and a hole R2 with an elastic band T passing through them and having the ends T1 secured to the first and to the last of cubes R; the elastic band T permits both the approach and the stability of a mutual positioning of the cubes, and a possible transformation of the piece by a temporary stretching in order to slide a cube upon the other while the elastic band T can be arranged along the bottom of a cut R1; a possible different arrangement is shown in Fig. 7. The possible combinations obtainable with such a piece are eighteen. This mechanism, although making integral part of the invention, can be replaced with others without altering the play set or game effectiveness.

Figs. 8 and 9 show a cube U with two cuts U1 and U2 orthogonal and opposite to each other. Fig. 10 shows a cube V with two cuts V1 and V2 orthogonal between them and arising from the same face, and the hole in

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correspondence of the cuts intersection. Fig. 11 shows a component W ideally made up of two cubes, with an axial hole W1 and a cut W2. By these pieces, similar combinations can be obtained.

By means of the above described materials, there is the possibility to construct in a plurality of manners - by utilizing all the thirteen pieces - a cube having the side equal to 4s or a square base parallelepiped having dimensions: 8s, 8s, 1s, in addition to a number of other bodies.

The individual pieces can be made of any material: wood, plastics and metal are, however, the material most suitable to the construction of the pieces.

Four possible projections Y on one face and corresponding recesses on other faces of the cubes can assure the centering and stability in the various positions.

The drawing shows only one exemplification of the invention which may vary in the forms and dispositions. The following modified embodiments, with others, may be provided, in which the invention can be realized: play sets which comprise, in addition to the piece Q, one or more mobile pieces as a partial or whole replacement of the remaining pieces; play sets which comprise the replacement of one or more pieces with others deriving from the junction or disassembly of the replaced pieces;

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play sets which comprise, in place of one or more pieces, other pieces geometrically formed by the same number of cubes, as for example by replacing the piece M with the piece D, and thus having in this case two like pieces in the play set, or by replacing the piece P with one formed by four cubes being lined up as in Fig. 4; play sets in which the piece Q is constructed with different mechanisms anyway allowing the mobile junction of one cube with the other, and with other features; play sets comprising any combination of the above described embodiments.

CLAIMS

1. A play set comprising a plurality of pieces (A...P) having fixed shape, each of which being ideally made up of a number of variously disposed cubes with at least a face in common, and at least a piece (Q) of variable shape actually made up of a number of cubes (R) variously matchable between them for taking up, with a touching face, a number of shapes, said pieces of fixed and variable shape being combinable between them to generate various spatial patterns.
2. A play set according to claim 1, characterized in that all pieces having fixed shape have a flat form with a thickness equal to that of the cube side.
3. A play set according to claim 1, characterized in that the pieces having fixed shape are twelve, eleven of which (A,B,C,D,E,F,G,H,L,M,N) being ideally made up of five cubes and one (P) being ideally made up of four cubes.
4. A play set according to claim 1, characterized in that it comprises at least a piece of variable shape made up of five cubes variably matchable between them.
5. A play set according to claim 1 or 4, characterized in that the cubes of a piece having variable shape are connected between them by means of an elastic band (T) which goes through them through a passage at least partly

formed by a cut (R1; V1,V2; W2), along which the elastic band can be moved.

6. A play set according to claim 5, characterized in that the elastic band (T) passes a through hole (R2) formed between the bottom of a cut and the wall opposite thereto.

7. A play set according to claim 5, characterized in that a cube (V) has two crossed cuts (V1, V2) arising from the same face.

8. A play set according to claim 5, characterized in that a cube (U) has two cuts (U1, U2) arising from opposite faces and lying in orthogonal planes.

9. A play set according to claim 1 or 4, characterized in that the cubes forming the piece having variable shape are magnetized for connection.

10. A play set according to claim 1 or 4, characterized in that the cubes forming the piece having variable shape are connectable by restraining joints.

11. A play set according to claim 1, characterized in that the cubes of the piece having variable shape have projections and recesses for the centering and the stability of mutual positioning.

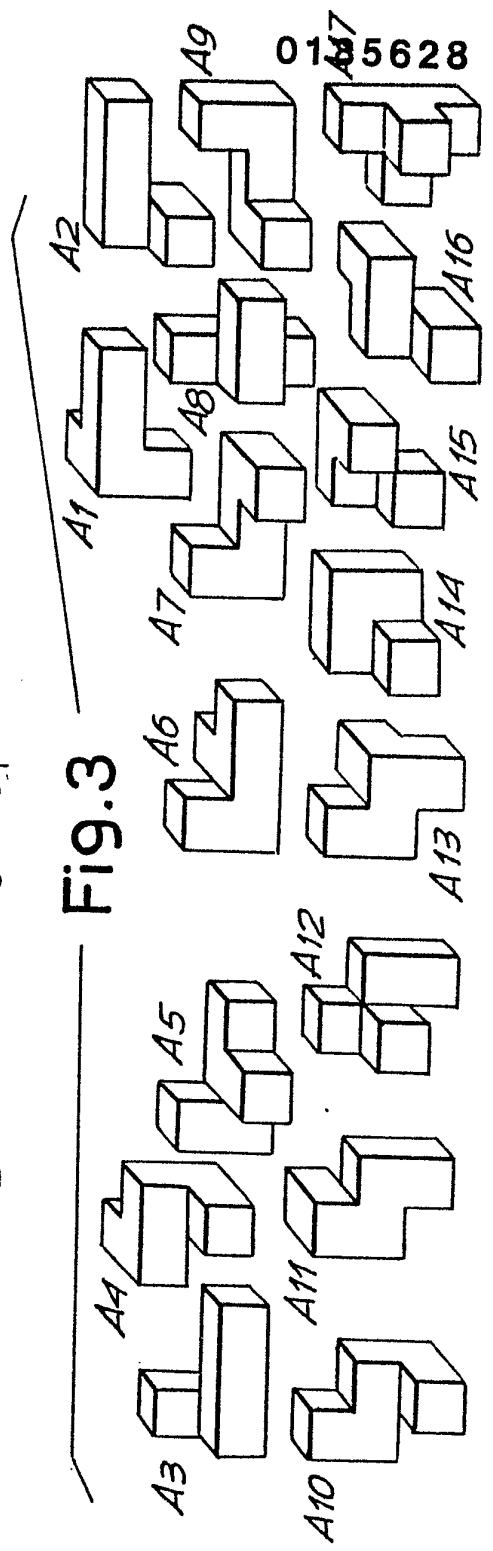
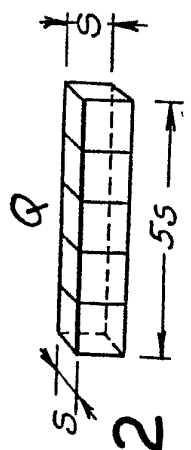
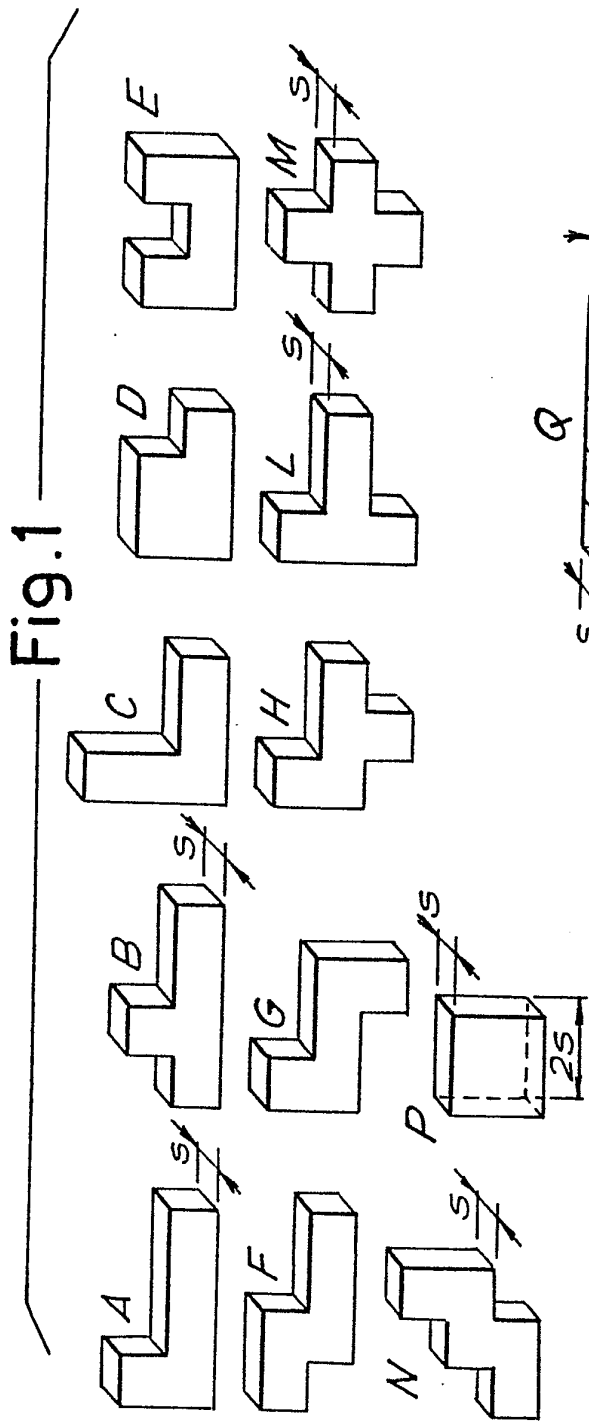


Fig.4

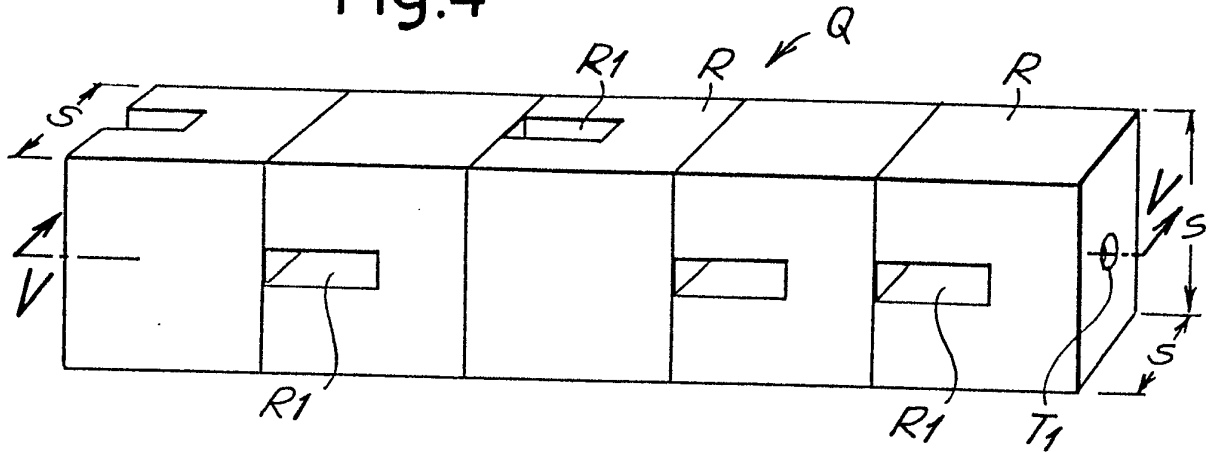


Fig.5

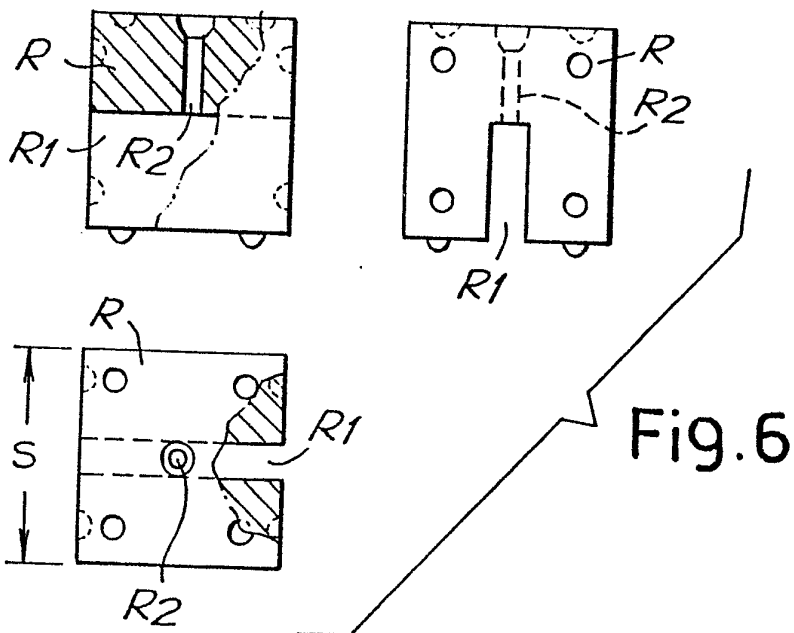
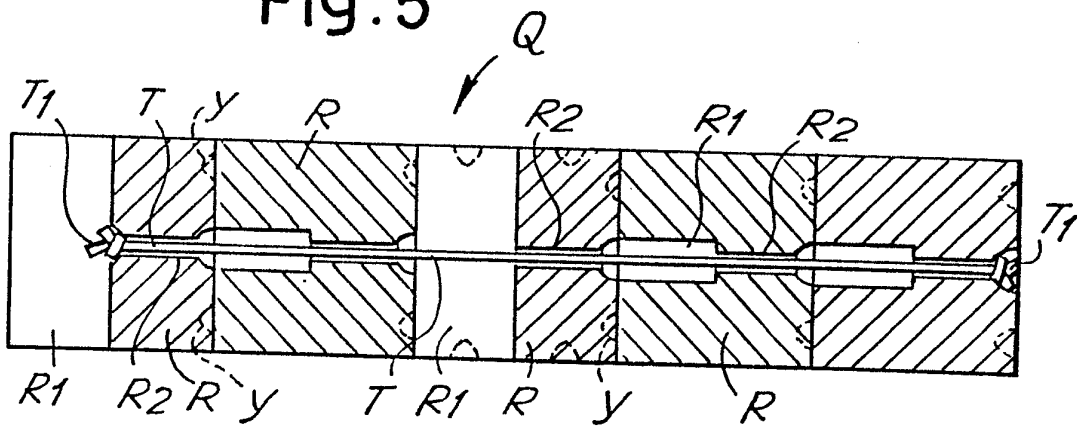


Fig.6

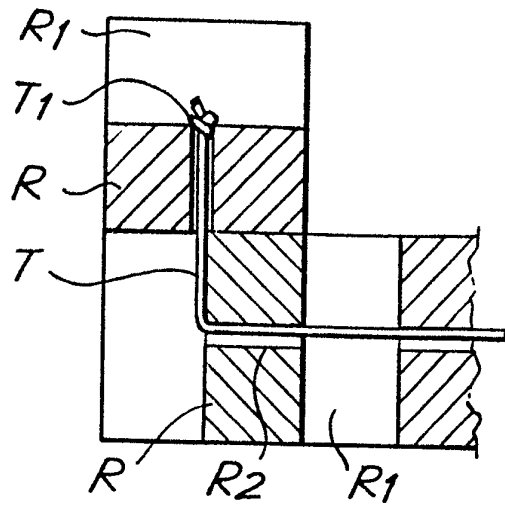


Fig.7

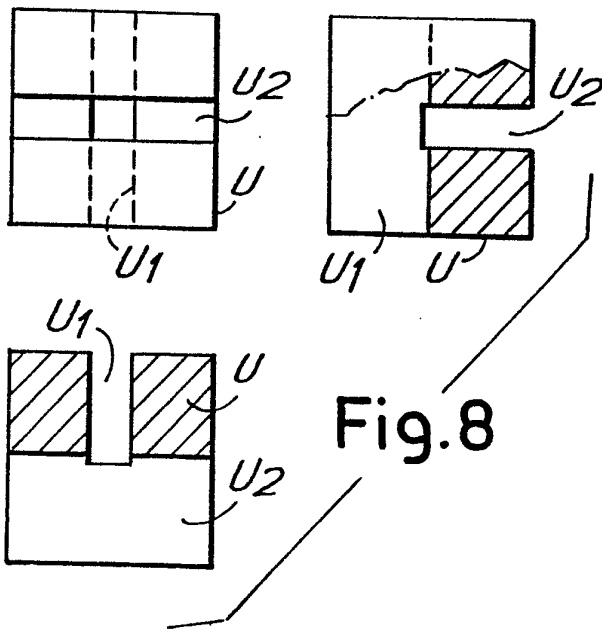


Fig.8

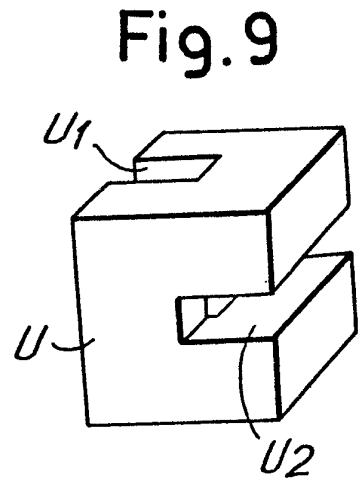


Fig.9

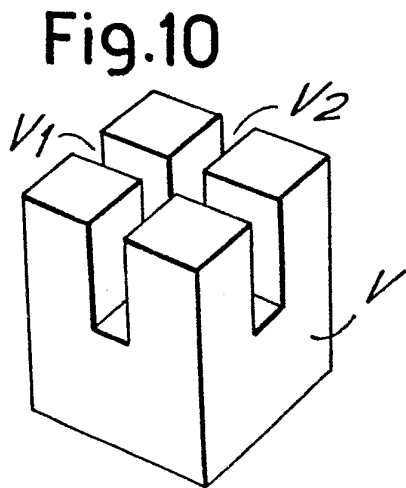


Fig.10

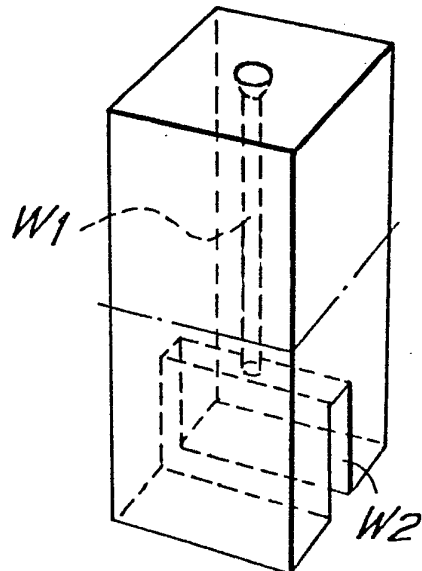


Fig.11