



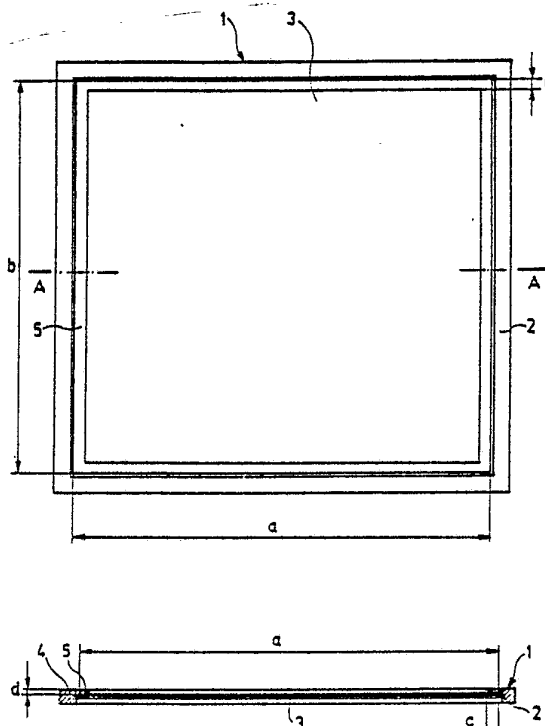
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification<sup>3</sup> : A63F 3/06; G09B 1/08 G09F 7/02</p>	A1	<p>(11) International Publication Number: WO 84/ 01111 (43) International Publication Date: 29 March 1984 (29.03.84)</p>
<p>(21) International Application Number: PCT/HU82/00045 (22) International Filing Date: 15 September 1982 (15.09.82) (71)(72) Applicant and Inventor: EGRI, János [HU/HU]; Zsolna u. 39, H-1125 Budapest XII (HU). (74) Agent: PATENTBUREAU DANUBIA; P.O. Box 198, H-1368 Budapest (HU). (81) Designated States: AT (European patent), AU, BE (European patent), CH (European patent), DE (European patent), DK, FR (European patent), GB (European patent), JP, NL (European patent), NO, SE (European patent), SU, US.</p> <p><b>Published</b> <i>With international search report.</i></p>		

(54) Title: CROSS-WORD TOY

## (57) Abstract

A cross-word toy, having sheets of cross-word graph and sheet or sheets containing the list of definitions and solution. In essence the toy has a mild-iron plate, magnetic clamping device for fixing the sheet of cross-word graph to the mild-iron plate and a set of letter blocks consisting of magnetic letter blocks with letters. Subject of the invention is also such toy used for solving or preparation of cross-words published especially in newspaper or by other means, which is characterized in that it has mild-iron plate containing net of squares and/or sheet(s) of printed net of squares and a magnetic clamping device for fixing the sheet(s) to the mild-iron plate. Furthermore the toy has a set of letter blocks consisting of magnetic letter blocks with letters and blocks for separation of the words and indication of interspaces. Advantage of the invention is that use of writing utensils for solving the cross-word are not required, consequently the related inconveniences and difficulties are eliminated, there is no need to erase and scribble over the paper. Since each sheet of graph remains intact even after the solution, thus each sheet of graph can be used again on several occasions and several persons can play with the same toy. The game can be carried out in the form of contest, e.g. the stake may be aimed at solving the cross-word by the contestants within the shortest time. It is a very advantageous factor, that the toy can be well used not only for solving but for preparation of cross-words, and it is an excellent pedagogical opportunity for acquiring vernacular knowledge and improving the linguistic education. Life of the elements of the toy-set is lasting, the production is relatively simple, the toy can be developed in an attractive construction on high aesthetic level.



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CROSS WORD TOY

The invention relates to cross-word toy having cross-word graphs and tables containing list of definitions and solution.

5 Solving cross-words is a popular pastime of many people all over the world. Most people do the cross-words published in the various magazines and newspapers for their own amusement, checking their abilities and knowledge, or simply for killing time,  
10 longing for entertainment, but there are those too, who are engaged in solving the cross-words taking part in contest as members of puzzle-solving clubs.

At the present time the player writes the solutions (words) corresponding to each number  
15 into the horizontal and vertical lines with pencil or ink, e.g. ball-point pen in the printed cross-word graph published in the newspapers. If the word subsequently proves to be erroneous, it has to be erased and replaced by the correct so-  
20 lution. This is difficult even when pencil is used, because either there is no eraser at hand, or the quality of the paper makes the removal of the incorrect word difficult; should it happen that the new word is also erroneous, at the second  
25 (or possibly further) erasure the paper gets torn, or becomes holed. The situation is even worse when ball-point pen is used: in this case only rewriting is conceivable resulting in hardly legible words on the scribbled over, disgusting graph.

30 Further disadvantage of the cross-word filled in with pencil or other writing utensils on the paper is that it can not be used again, it loses its



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function and becomes worthless. It can not be handed over to another person for trying to solve the cross-word, since the solutions remain indelible on the graph printed on paper. Consequently after  
5 solving the cross-word, even the magazines prepared specifically for riddle-enthusiasts (e.g. the "Füles" or "Utítárs" published in Hungary) give playing possibility and mental thrill only for one person, the pleasure of which can not be shared  
10 with others, since it does not allow comparison and contest.

Purpose of the invention is to give such cross-word toy, which eliminates the use of writing utensils and destruction of the cross-word graph  
15 and allows the repeated solving of the same cross-word, several persons taking part in the cross-word game and in such contest, moreover it allows cross-word competition as well.

The invention is based on the recognition,  
20 that use of writing utensils becomes superfluous by letters set temporarily on the cross-word graphs, while the temporary setting is perfectly realizable with the use of mild-iron plate and magnetic letters.

On the basis of this recognition the problem  
25 was solved with the aid of such magnetic indoor game which has cross-word graph and sheet or sheets containing the list of definitions and solution and a magnetic clamping device for fixing the sheet of cross-word graph to mild-iron plate and  
30 set of letter blocks consisting of magnetic letter blocks with letters.

Subject of the invention is also the corss-word toy which is suitable for solving and pre-



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paration of cross-words circulated and published mainly in newspapers or by other means, and this toy is characterized in that it has mild-iron plate containing sheet(s) with net of squares and magnetic clamping device for fixing them to mild-iron plate, and the toy has a set of letter blocks containing magnetic letter blocks with letters, furthermore elements for the separation of words and indication of the interspaces between the letters.

10 Advantages of the invention are summed up in the following:

Writing utensils for solving the cross-word are unnecessary, consequently the related inconveniences and difficulties are eliminated, there is no need to erase or scribble over the paper. Since each sheet of graph remains intact after the solution, thus each sheet of cross-word can be repeatedly used on several occasions, the same toy is suitable for playing by several persons. The game can be carried out in the form of contest too, e.g. the stake may be aimed at who of the contestants will solve the puzzle within the shortest time. It is a highly advantageous aspect, that the toy can be used not only for solving the cross-word, but for the preparation of cross-word as well, which is an excellent pedagogical opportunity for acquiring vernacular knowledge and improving the linguistic education. Life of the elements of the toy is lasting, the production is relatively simple, the toy can be made in attractive appearance on high aesthetic level.

30 The invention is described in detail with the aid of the enclosed drawings containing the



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accessories of the toy, in which:

- Figure 1.: Top view of the playing board and clamping frame,
- 5 Figure 2.: Section taken along line A-A shown in Figure 1.,
- Figure 3.: Sheet of cross-word graph used together with the device shown in Figures 1. and 2.,
- Figure 4.: Sheet containing the list of definitions,
- 10 Figure 5.: A detail of the cross-word graph drawn to a larger scale,
- Figure 6.: Top view of a preferable form of the letter block used for the toy according to the invention,
- 15 Figure 7.: Side view of the letter block shown in Figure 6.,
- Figure 8.: Further form of a letter block of the set of letter blocks shown in perspective view,
- 20 Figure 9.: Perspective view drawn to a larger scale of a preferable form of the magnet built into the letter blocks,
- Figure 10.: Further possible form of a letter block of the set of letter blocks shown in top view,
- 25 Figure 11.: Side view of the letter block according to Figure 10.,
- Figure 12.: Perspective view of the magnet separating the words and indicating the inter-spaces between the letters.
- 30

The rectangular playing board marked with reference number 1 in Figures 1. and 2., has a



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mild-iron plate 3 mounted in frame 2. The frame 2  
- in addition to its aesthetic and utilization  
functions - support the mild-iron plate, and its  
outer flanges are suitably rounded. The frame 2  
5 may be made of synthetic material and can be joined  
with the mild-iron plate 3 by injection moulding.  
The frame 2 is provided with flange 4 of height d  
above the mild-iron plate. A magnetic clamping  
frame 5 is arranged on the mild-iron plate 3  
10 within the frame 2 fitting directly to its flange  
4. The clamping frame 5 shown in Figures 1. and 2.  
is fitted onto the mild-iron plate 3. Thickness  
of the clamping frame 5 - in the present construc-  
tion - is the same as height d of flange 4 of  
15 frame 2. Length of the outer flange 4 of the  
similarly rectangular frame is a on one side and  
h on the other side. Figure 3. shows a sheet of  
cross-word graph printed on paper and marked with  
reference number 6. This contains a conventional  
20 net of squares, some of the squares are numbered  
and some of them are black; the latter ones serve  
for separation of the words and indication of the  
interspaces between the letters. Length of one of  
the sides of the rectangular sheet of cross-word  
25 graph 6 is a, that of the other one is h, conse-  
quently it can be fitted onto the mild-iron plate  
3 of the playing board 1 according to Figures 1.  
and 2. so as to fitting to flange 4 within the  
frame 2. Zone 7 of width e is in the vicinity along  
30 the circumference of the sheet containing the cross-  
word graph 6, this dimension e exceeds the width c  
of clamping fram 5 according to Figures 1. and 2.,



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preferably it its multiple. Zone 7 may be left blank, since it has no functional role in solving the cross-word, its purpose is partly it ensures room for writing in the identification number, in this case "25" for instance in the right lower corner. The toy includes several sheets of cross-word graph 6, which are numbered for comparision with the sheets containing the list of definitions and those showing the solution, and in order to check the result of the game. Figure 4. shows a sheet containing the list of definitions 8 given by way of example, where the number "25" in the right upper corner indicates that this list of definitions belongs to the sheet of cross-word graph 6 according to Figure 3. The sheet (not shown) containing the solution is also an accessory of the toy-set showing similarly "25" indicating that it is to be used together with the sheet of cross-word graph 6 and sheet 8 containing the list of definitions. It is noted, that while the sheets of cross-word graph 6 are stored in the form of separate sheets, naturally in a pack for each game in a toy-box (not shown), the sheets containing the list of definitions 8 and the solutions are compiled in a booklet and placed suitable in a toy-box, and each sheet of the booklet may contain several list of definitions or solutions, since only the sheets of the cross-word graph are functionally linked with the supporting board 1.

Figure 5. was aimed at showing the aspects according to which the letter blocks are to be formed in order to solve the cross-word with the





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toy according to the invention the most conveniently and clearly. The numbers representing part of the cross-word (e.g. "31" and "35" in Fig. 5.) are written into the left upper corner of squares 9 of the net of squares, which is the usual method all over the world. Accordingly such letter blocks should be used that even after placing them onto the sheet of the cross-word graph, the numbers e.g. "31" and "35" in Figures 5 remain visible.

10 Further aspect is that arrangement and removal of the letter blocks should be done in a simple way. Those these activities could be performed with thin plates too, however this would be complicated and difficult, especially when several letter

15 blocks are on the graph and certain letters ought to be removed - e.g. an erroneous word is to be corrected - and replaced by others.

In view of these considerations, use of the letter blocks according to Figures 6. and 7. marked with reference number 10 is recommended. This letter block 10 has a base plate 11 into which the magnet 12 marked with dashed line in Figures 6. and 7. is built in, so that its lower surface is level with the lower surface of base plate 11. The base plate

25 11 has a semi-circular cut-out 13 in the vicinity of one of its corners, which leaves the number free written into the left upper corner of the square, when the letter block 10 is placed over square 9 of the cross-word graph 6 according to Figure 5.

30 The line onto which the curved contour of cut-out 13 is fitted, is marked with dashed line in Figure 5. An upwards extending cylindrical shank 14 joins



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the base plate 11 (Figures 6. and 7.), on the upper face of which is the letter 15, in this case for instance letter "G". With this shank 14 the whole letter block is easily placed on and removed from  
5 the cross-word graph.

The letter block according to Figures 6. and 7. may be made of any material, e.g. from non-transparent synthetic material, since the letter can be visualized on the upper face of shank 14 in several  
10 ways (e.g. painted on, engraved, glued on etc.) and the cut-out 13 ensures the visibility of the numbers on the paper. However the letter block can be made of transparent material as well, such is shown in Figure 8. marked with reference number 16. Here no  
15 cut-out is necessary on the base plate, because the number on the cross-word graph underneath is visible below the letter block. The letter block according to Figures 10. and 11. differs from the one shown in Figure 8. only in that a magnifying  
20 lens 20 is on the upper face of the transparent base plate 19, where the letter block 18 is above the number written into the square when placed over the square of the cross-word graph.

The magnet 12 built into the letter blocks 10, 25 16 or 18 may be shaped according to Figure 9., i.e. as a disc provided with a hole 21 in the centre.

Solving the cross-word with the toy consisting of above elements is the following:

A sheet of cross-word graph is placed on the  
30 playing board 1, its edges fitting to the flange 4 of frame 2 (Figure 2.). The magnetic clamping frame 5 is placed over the sheet of cross-word graph



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and with this the sheet of graph is fixed in its position. The next step is to select the sheet of definitions 8 corresponding to the given sheet of graph 6, and the cross-word is solved by setting  
5 out the solved or believed to be solved words from the members of a set of letter blocks consisting of letter block-types shown in Figures 6-11. The magnetic force will become effective in this case too through the sheet of paper, thus the letter  
10 blocks are properly fixed in their positions. When the words to be solved are set out, the result is checked against the sheet (booklet) containing the solution.

The degree of difficulty of the list of definitions pertaining to each game can be increased  
15 for instance in the sequence of numbering and as the player progresses, will come up against more and more difficult definitions and thereby his ability too will develop for solving them.

20 Such version of the cross-word toy is also subject of the invention, which has no sheets containing preprinted cross-word graphs, list of definitions and solution. This version of the toy is suitable for instance for solving the cross-  
25 words appearing in newspapers, magazines, or anywhere (e.g. in the television) without the use of writing utensils. The set of letter blocks and playing board of this toy may be identical with those described in connection with Figures 1. and  
30 2., as well as Figures 6-12., in addition however magnetic blocks with dark, preferably black upper face for separation of the words and indication



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of the interspaces, furthermore blank net of squares are also required. The magnetic plates 22 shown for instance in Figure 12. can be used for such blocks. In this case the upwards extending 5 shanks have no such significance as in case of the letter blocks, since removal of the plates 22 once arranged in the set of squares according to the existing cross-word graph are not necessary during the solving work. Naturally the upwards extending 10 shanks can be fixed to these plates 22 as well. The net of squares can be realized either by painting on the mild-iron plate 3 of the supporting board 1, or printed on separate sheet of paper.

The above detailed toy can be excellently 15 used not only for solving but for preparation of cross-words as well, since in this case removal and replacement of the letters occur even more frequently.

Blank sheet of paper with net of squares and 20 - in addition to the magnetic set of letters - magnetic blocks separating the words and indicating the interspaces, suitable for covering each square of the net of squares are required for preparation of cross-word. The plates 22 with dark 25 upper face shown in Figure 12. can be used for such blocks. The numbers representing part of the cross-word graph (as for instance "31" and "35" in Figure 5.) can be written on the sheet of paper during preparation of the cross-word.

30 The two types of toy described above may be put on the market naturally in a box. In order to use the second version (including the preparation



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of cross-word) with the elements of the first version, it is merely necessary to have net of squares at least on one side of the iron plate, or sheets of paper with blank net of squares fitting along the flange of frame 2 (Figures 1. and 2.), as well as in addition to the set of letters, magnetic blocks e.g. plates 22 shown in Figure 12.) for separation of the words and indication of the interspaces arranged in the box.

10 The invention is naturally not restricted to the constructions given by way of example and described in detail above, but it can be realized in many alternatives within the protective range defined by the claim points. For instance the  
15 shanks of the letter blocks may be of square or polygonal shape, the base plates of the letter blocks may deviate from the square shape. Material of the letter blocks is not necessarily made of synthetic or transparent synthetic material. The  
20 frame surrounding the mild-iron plate may be made of wood, or other non-magnetic material. The device for clamping the sheet of cross-word graph may be not only frame, but formed by separate slats. Deviation from the constructions given by  
25 way of example is possible in many respects without overstepping the protective range.



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What we claim is

1. Cross-word toy having sheets of cross-word graph and sheets containing list of definitions and solution, characterized in that it has mild-iron plate (3), magnetic clamping device for fixing the sheet of cross-word graph (6) to mild-iron plate (3) and set of letter blocks containing magnetic letter blocks (10, 16, 18) with letters (15).

2. Cross-word toy for solving and preparation of cross-words published especially in newspapers or by other means, characterized in that it has mild-iron plate (3) containing a net of squares and/or sheet(s) containing printed net of squares and magnetic device for fixing to the mild-iron plate (3) and the toy has a set of letter blocks consisting of magnetic letter blocks (10, 16, 18) with letters (15), furthermore elements for separation of the words and indication of the inter-spaces between the letters.

3. Cross-word toy as claimed in claim 1. or 2., characterized in that the mild-iron-plate (3) in its range of circumference is set into frame (2) with which it forms a playing board (1).

4. Cross-word toy as claimed in claim 3, characterized in that the frame (2) has a flange (4) extending above at least one plane of the mild-iron plate (3) with clearance (c) and edges of the sheet of cross-word graph in its position lying on the mild-iron plate (3) are fitted to the inner surface of this flange (4) or arranged in its immediate vicinity.

5. Cross-word toy as claimed in claim 3 or 4,



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characterized in that the frame (2) is made of synthetic material suitably by injection moulding and it surrounds the flange of the mild-iron plate (3) along its circumference.

5       6. Cross-word toy as claimed in any of claims 1 - 5, characterized in that the magnetic clamping device is formed by magnetic clamping frame (5).

7. Cross-word toy as claimed in claim 6., characterized in that the clamping frame (5) in its  
10 position fixing the sheet of cross-word graph (6) or sheet containing the net of squares is arranged along the frame (2) surrounding the mild-iron plate (3) fitted suitably to its flange (4) and thickness (d) of the clamping frame (5) is the same or nearly  
15 identical with the height of flange (4) (Figure 2.).

8. Cross-word toy as claimed in claim 6 or 7., characterized in that a zone (7) not part of the graph or net of squares is in the range along the edge of the sheet containing the cross-word graph  
20 (6) or net of squares, the width of this zone is suitably multiple of the width (c) of the clamping frame (5), but at least identical with it.

9. Cross-word toy as claimed in any of claims 3 - 9., characterized in that it has blocks for  
25 separation of the words and indication of the interspaces between the letters.

10. Cross-word toy as claimed in claim 2 or 9., characterized in that the block separating the words and indicating the interspaces are formed  
30 by square plates (22) with dark upper surface, preferably identical with each square (9) of the net of squares of the cross-word graph.



11. Cross-word toy as claimed in any of claims 1 - 10., characterized in that the blocks separating the words and indicating the interspaces have upwards extending shanks.

5 12. Cross-word toy as claimed in any of claims 1 - 11., characterized in that the letter blocks (10, 16, 18) have base plate (11, 17, 19) and upwards extending shank (14) fixed to the base plate, the letter (15) is on the upper surface of the  
10 shank (14) and the base plate (11, 17, 19) - after arrangement of the letter block (10, 16, 18) - is formed as to allow the visibility of the numbers ("31", "35") in the squares of the net of squares of the cross-word graph.

15 13. Cross-word toy as claimed in claim 12., characterized in that the shape of the base plate (11) of the letter block (10) is selected as to leave the number free in the square when placing the letter block over a square (9) of the net  
20 of squares.

14. Cross-word toy as claimed in claim 12., characterized in that the base plate (11) in its top view is the same or nearly identical with the square of the net of squares and it has suitably  
25 curved cut-out (13) in the vicinity of one of the corners (Figure 1.).

15. Cross-word toy as claimed in any of claims 12 - 14., characterized in that the base plate (17) of the letter block (16) is made at least  
30 in part of transparent material (Figure 8.).

16. Cross-word toy as claimed in claim 15., characterized in that the base plate (19) of the





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letter block (18) made of transparent material is provided with magnifying lens (20) at the place where the base plate (19) placed on the cross-word graph is aligned with a number ("31", "35") in the square (9) (Figures 10, 11 and 5.).

5 17. Cross-word toy as claimed in any of claims 1 - 16., characterized in that the letter blocks (10, 16, 18) are made of synthetic material.

10 18. Cross-word toy as claimed in claim 1 or in any of claims 3 - 17., characterized in that the sheets containing the list of definitions and solution are compiled in the form of a booklet.



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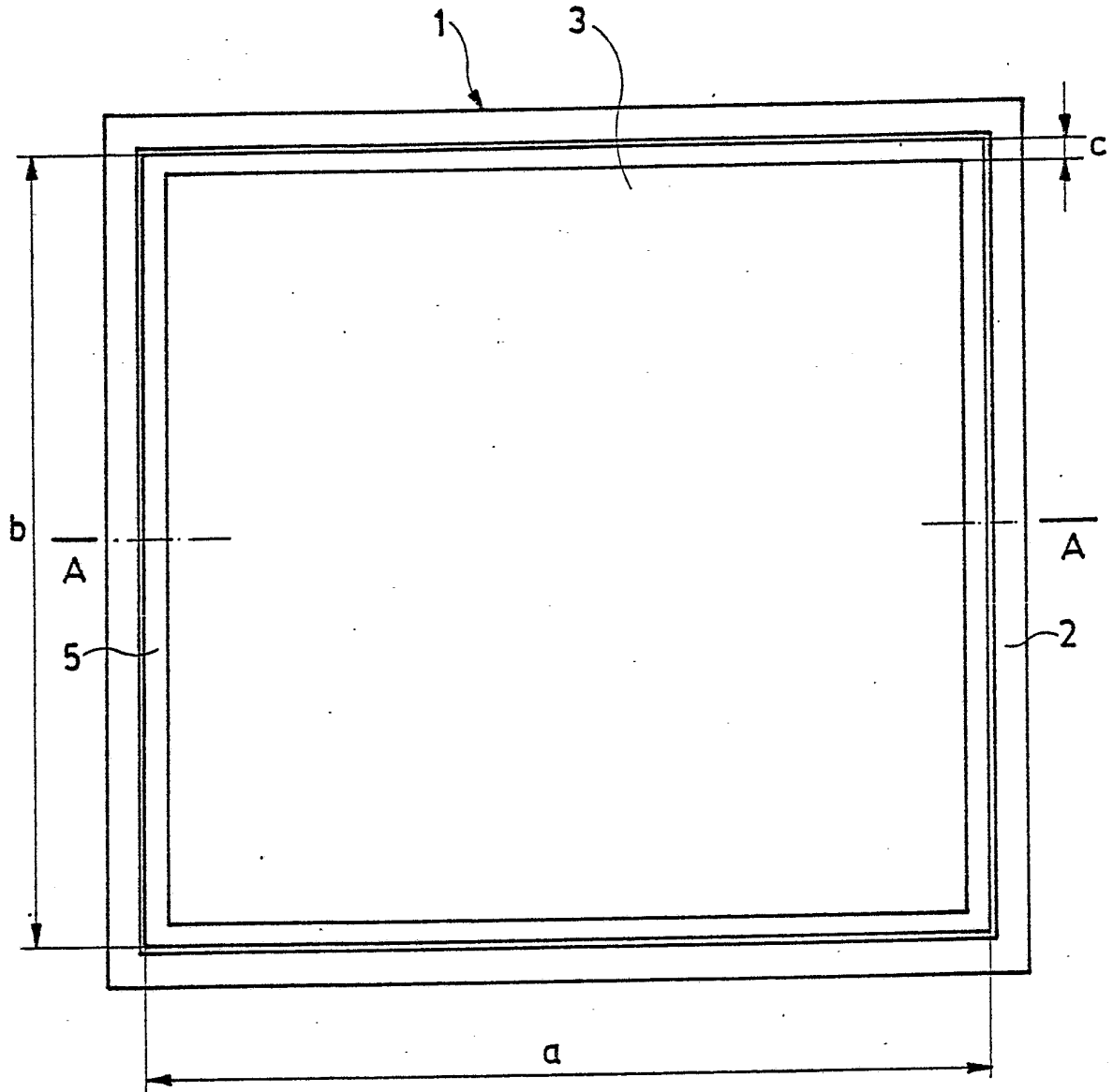


Fig. 1

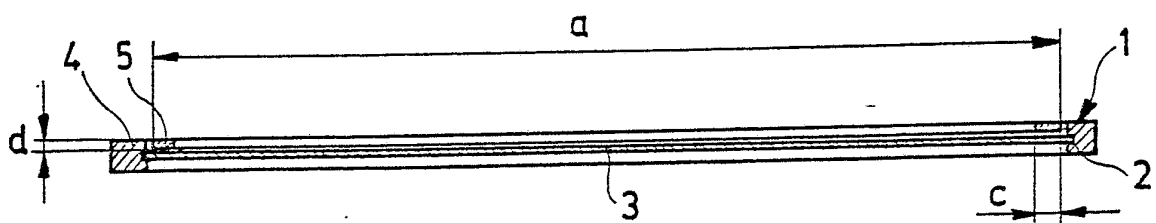


Fig. 2

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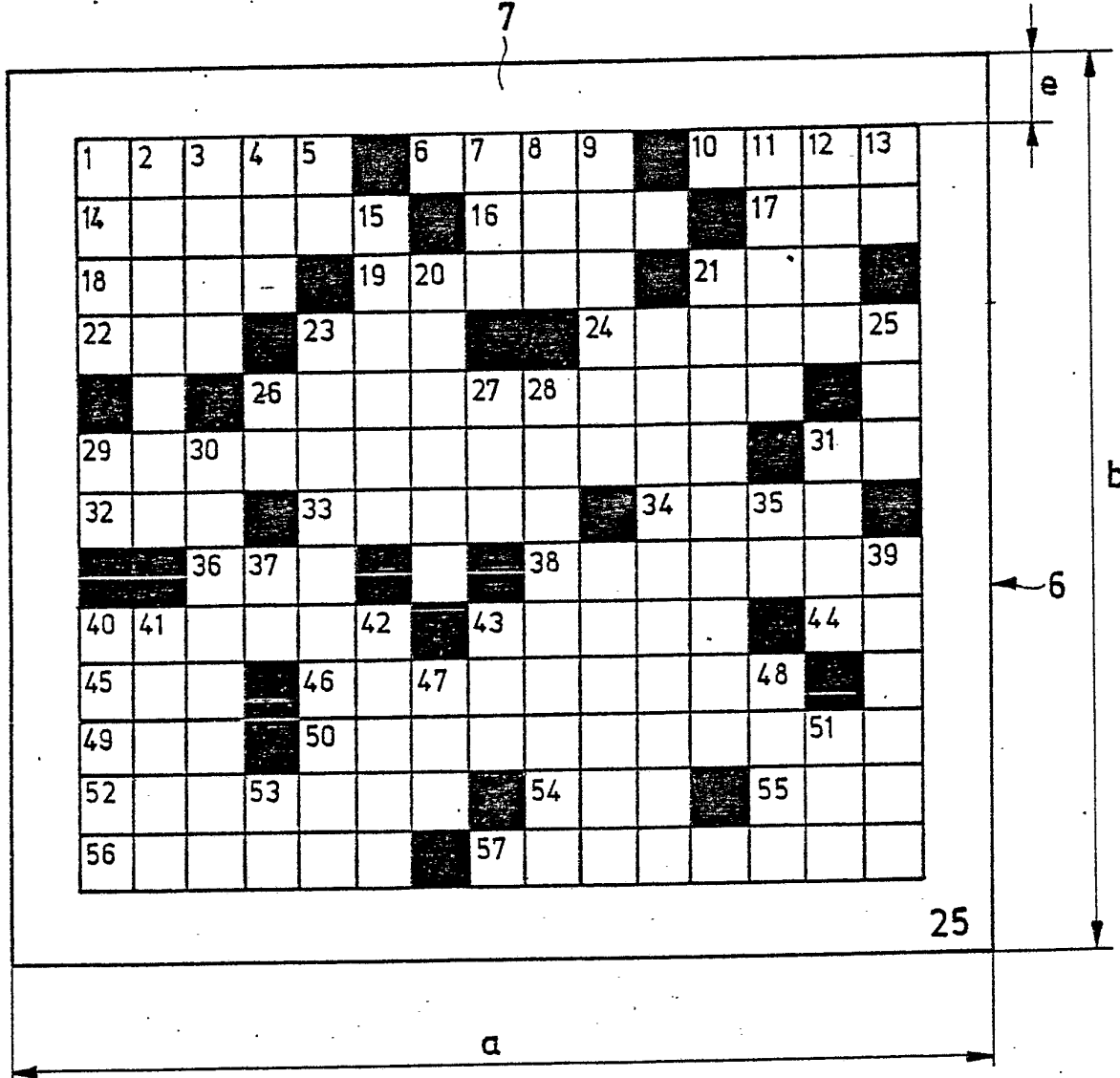


Fig. 3

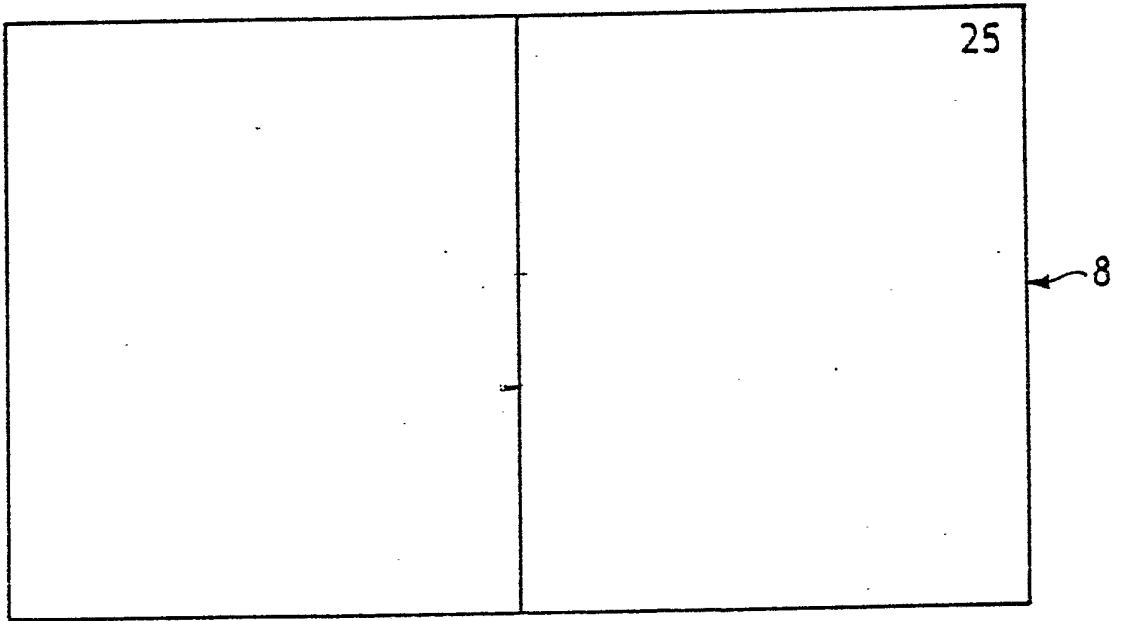


Fig. 4

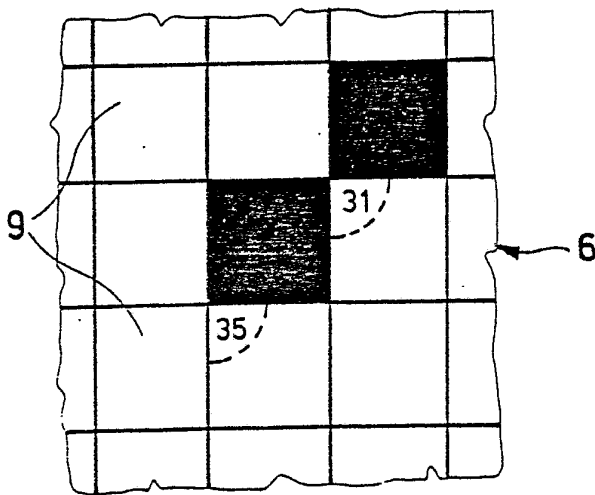


Fig. 5

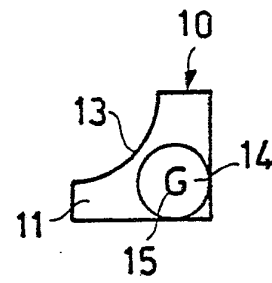


Fig. 6

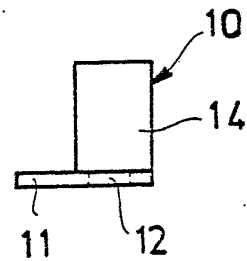


Fig. 7

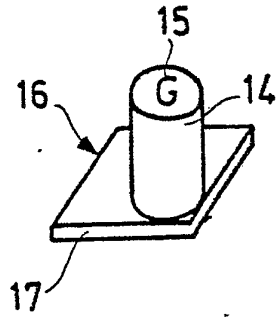


Fig. 8

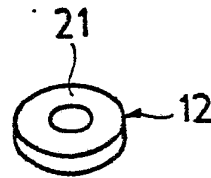


Fig. 9

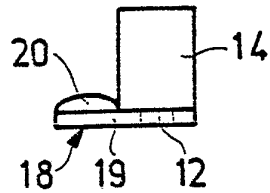


Fig. 11

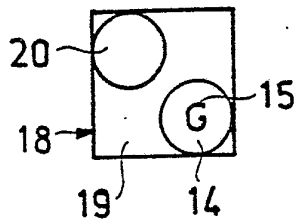


Fig. 10

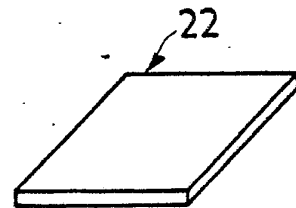


Fig. 12

# INTERNATIONAL SEARCH REPORT

International Application No PCT/HU82/00045

<b>I. CLASSIFICATION OF SUBJECT MATTER</b> (If several classification symbols apply, indicate all) <sup>3</sup>		
According to International Patent Classification (IPC) or to both National Classification and IPC		
A63F 3/06, G09B 1/08, G09F 7/02		
<b>II. FIELDS SEARCHED</b>		
Minimum Documentation Searched <sup>4</sup>		
Classification System	Classification Symbols	
IPC <sup>3</sup>	A63F 3/06, G09B 1/08, G09F 7/02, G09F 7/04, G09F 7/14, G09F 7/18	
Documentation Searched other than Minimum Documentation to the extent that such Documents are included in the Fields Searched <sup>5</sup>		
<b>III. DOCUMENTS CONSIDERED TO BE RELEVANT</b> <sup>14</sup>		
Category <sup>6</sup>	Citation of Document, <sup>15</sup> with indication, where appropriate, of the relevant passages <sup>17</sup>	Relevant to Claim No. <sup>18</sup>
A	US, A, 3662477 (Harold Weinstein), 16 May 1972 (16.05.72)	1-4
A	US, A, 3947040 (Harold Samuels), 30 March 1976 (30.03.76)	12
A	FR, A5, 70189 (Paul Truph�me et Marcel Guirard), 19 February 1959 (19.02.59)	9,10
A	FR, A5, 1573882 (M. Raymond Dumont), 11 July 1969 (11.07.69)	2-5
A	FR, A5, 1524947 (M. Joseph Benedetti), 10 May 1968 (10.05.68)	2,3,10
A	FR, A5, 1490664 (M. Jacques William Tricart), 04 August 1967 (04.08.67)	2,9,10
A	GB, A, 1449676 (Leonard Enzer et al), 15 September 1976 (15.09.76)	1-3,11,12,17
<p><sup>15</sup> Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"A" document member of the same patent family</p>		
<b>IV. CERTIFICATION</b>		
Date of the Actual Completion of the International Search <sup>19</sup>	Date of Mailing of this International Search Report <sup>20</sup>	
13 May 1983 (13.05.83)	12 June 1983 (12.06.83)	
International Searching Authority <sup>1</sup>	Signature of Authorized Officer <sup>20</sup>	
ISA/SU	(L. Komarova)	