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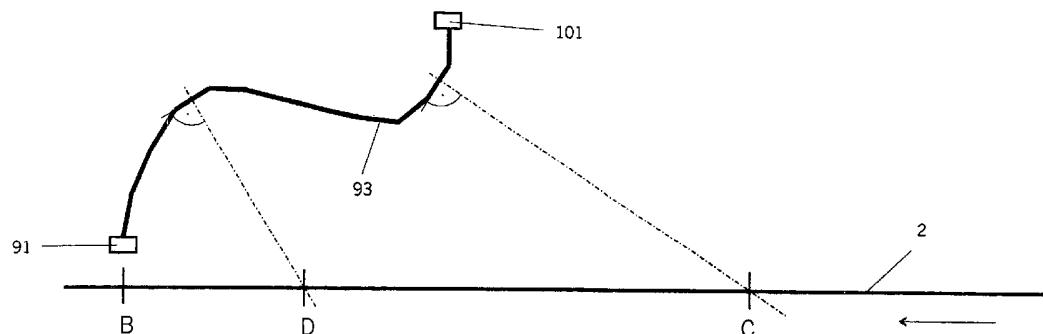
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(54) Title: ADVERTISING BOARD AND PROCEDURE FOR SETTING UP ADVERTISING BOARD



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(57) Abstract: The subject of the invention relates to an advertising board which is positioned beside a road with a given path (2) and which has a supporting structure and an information-displaying surface (20), and the information-displaying surface (20) is not a plane surface or a quadric, axially symmetrical, straight cylindrical surface. The essence of the invention is that the information-displaying surface (20) is positioned beside the road with a given path (2) so that when progressing between the starting point (A) and final point (B) of observation, there are at least two points (C, D) from which various sections of the intersection line of at least one plane containing a straight line drawn through the points and the information-displaying surface can be seen face one.

## Advertising board and procedure for setting up advertising board

### The subject of the invention

The subject of the invention relates to an advertising board which is positioned along a road with a given path and which has a supporting structure and an information-displaying surface. The subject of the invention, furthermore, relates to a procedure for the setting up of an advertising board which is positioned along a given fixed road and has a supporting structure and an information-displaying surface.

The advertising of goods and services has special significance all over the world. It is in the primary interest of the manufacturers and traders to continuously inform the consumers of their changing range. A special form of advertising has been formed, this is the public area advertisement. A significant proportion of public area advertisements are situated along traffic routes. The public area advertising boards used today have a flat surface and are installed in a fixed, defined position. They also use electrically rotating devices as well as electrically rotating prisms.

### The state of the art

A public road advertising board is presented in patent description US 2002/0069566A1. The advertising board is put together from containers so that their sides form a plane surface, the advertisement placed on which provides information for those travelling on public roads by vehicle. The disadvantage of the solution is that the information on the advertising board only provides total enjoyment and complete information to those travelling in the vehicle at a given point. On nearing the board and moving away from it the advertisement elements appear distorted.

An advertising board positioned beside a public road, containing advertising elements, especially text and/or images can be seen in patent description registration number HU 217 229. The essence of the invention is that looking from the direction of a vehicle on the public road approaching the advertising board there are modifying elements at a distance from the advertising board at least partly exposing and/or covering the advertising elements creating the impression of movement for a person in the vehicle. The disadvantage of the solution is that it

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is only suitable for the advertising of a certain type of goods or service, which can be linked to movement. It is not suitable for attaining special, surprising effects with the emphasising of certain details of the text or design to be advertised. A further disadvantage is that the vehicle travelling beside it only creates the desired effect above a certain speed, only in this way is the impression of movement created on the advertising board.

#### The invention recognition

Our invention is based on the recognition that we do not view the advertising board from a given point, instead we view it several times while moving, in front of it in one direction or another. Travelling on a public road by vehicle in the case of advertising boards placed next to public roads, looking out of the vehicle the movement as compared to the advertising board is created automatically and its direction is determined by the path of the road. The first link with the advertising board placed in a public area is created, the first point of detection occurs, when travelling towards the advertising board the advertising elements on the board become recognisable. During the journey the final link occurs, the final point of detection occurs, when we pass the board. In general, but especially in the case of advertising boards placed beside public roads that particular direction can be determined when travelling in which the advertising board need to be easily visible. The position of the advertising board is deemed to be good as compared to the direction of travel if from the various points of the travel path the part of the advertising board carrying important information is seen facing you. A further recognition is that as the advertisement, over and above rationality, also has an effect on the feelings, the structure of the advertisement may in many cases require for all the information not to appear at the same time to the consumer. The advertisement's attention-grabbing effect is increased if it presents the products or services to be advertised separated in time or space. Finally our recognition also involves that special effects can be attained with the size of the advertising elements, by changing their position on the advertising board or by making them visible to the observer or covering them. Various advertising board forms can be manufactured or set up for the product or service to be advertised, which also creates unlimited possibilities for spectacle design.

The aim of our invention was to create an advertising board that can be seen according to the pre-planned effect while travelling in front of it on a road with a given path. It is suitable for creating various advertising effects, and, furthermore, for emphasising the part-elements of the advertisement for an observer at a greater distance from the advertising board in an attention-grabbing way as well as for distinctly separating the items of information for an observer approaching closer to the advertising board.

Our invention that realises our aims is an advertising board which is positioned beside a road with a given path and which has a supporting structure and an information-displaying surface, and the information-displaying surface is arranged so that it is not a plane surface or a quadric, axially symmetrical, straight cylindrical surface. The essence of the invention that forms the basis of its novelty is that the information-displaying surface is positioned beside the road with a given path so that when progressing between the starting point and final point of observation there are at least two points from which various sections of the intersection line of at least one plane containing a straight line drawn through the points and the information-displaying surface can be seen face on.

According to an advantageous construction example a part of the information-displaying surface partially covers the other part of the information-displaying surface from the point of view of an observer approaching it. Another advantageous embodiment is when the intersection line consists of one or more equal or different regions. According to a further advantageous construction form the intersection line consists of straight and arced or several arced regions where their chord lines can also form arcs. The intersection line can consist of one or more arced regions, splines determined by third-degree, vector-scalar functions, where their chord lines can also form the arcs and splines.

The cross section of the information-displaying surface vertical to the road with a given path may be straight or not straight according to a further advantageous embodiment. There may be cut-outs or protrusions on the information-displaying surface. There are stationary or moving advertising elements, for example, letters or drawings, on the one and/or the other side of the information-displaying surface.

The information-displaying surface of the advertising board according to the invention, which is not a plane surface or a quadric, axially symmetrical, straight surface, may be also formed of separate elements. It is a requirement for the surface to be seen as a continuous surface for the observer travelling in front of it from the point of view of the visual effect. According to the invention the information-displaying surface is positioned by a road with a given path so that when progressing between the starting point and final point of observation there are at least two points from which various sections of the intersection line of at least one plane containing a straight line drawn through the points and the information-displaying surface can be seen face on.

There may be a gap between the separate elements, which is not be greater than 50% of the length of the two neighbouring elements. The advertising board with an information-displaying surface consisting of separate elements may also be set up so that a part of the information-displaying surface covers the rest of the board. The separate elements of the information-displaying surface may meet intersection lines consisting of straight or arced or several arced regions, where their chord lines may also form arcs. An arrangement may also be advantageous in which the separate elements of the information-displaying surface meet intersection lines consisting of curved regions, splines determined by one or more third-degree, vector-scalar functions, where there chord lines can also form the arcs and splines.

There may be cut-outs or protrusions on the information-displaying surface of the advertising board. The vertical cross sections of the separate elements of the information-displaying surface vertical to the road with a given path may be straight, but may also diverge from the straight. There are stationary or moving advertising elements, for example, letters or drawings, on the one and/or the other side of the information-displaying surface.

Furthermore, the subject of the invention relates to an advertising board which is positioned along a road with a given path and which has a supporting structure and an information-displaying surface. The information-displaying surface is arranged so that it is not a plane surface or a quadric, axially symmetrical, straight cylindrical surface. The essence of the invention is that the information-displaying surface is made up of separate elements and the separate elements are formed

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by plates that can be rotated about an axle and fixed after rotation. The plates are polygonal in form in their cross section perpendicular to the axis of rotation, the edge of which is a straight and/or arced or curved line. The axes of the plates are positioned beside a road with a given path, along a straight or curved line, and the plates are set up so that when progressing between the starting point and final point of observation there are at least two points from which various sections of the intersection line of at least one plane containing a straight line drawn through the points and the information-displaying surface can be seen face on.

According to an advantageous construction form the axles of the plates in the supporting structure that permits the rotation are positioned along a quarter arc beside the path of the given road. A favourable positioning may be in which the axles of the plates are positioned in the supporting structure that permits the rotation along a straight line at 45° to the path of a road with a given path. The cross section of the information-displaying surface perpendicular to the plane of the road with a given path may be straight or not straight. The stationary or mobile advertising elements may be positioned on the one and/or the other side of the information-displaying surface.

The subject of the invention also relates to a procedure for setting up the advertising board, which advertising board has a supporting structure containing columns and an information-displaying surface. The information-displaying surface is set up, from elements that are connected to one another in such a way so that they can move, in such a way so that when progressing between the starting point and final point of observation there are at least two points from which various sections of the intersection line of at least one plane containing a straight line drawn through the points and the information-displaying surface can be seen face on. The essence of the procedure is that the elements of the information-displaying surface are rotated with respect to one another according to the requirement of the visual effect of the advertising element to be placed in the surface, then the elements are fixed.

The drawings

Examples of the construction forms of the advertising board according to the invention are presented in more detail on the basis of the attached drawings, where

Figure 1 is the outline of the arrangement of an ideal advertising board according to the invention,

Figure 1a is the enlarged top view of the information-displaying surface of the ideal advertising board according to figure 1,

Figure 2 is a construction example of the information-displaying surface of the advertising board according to the invention and the plane intersection line containing the straight line drawn through two points on a road with a given path,

Figure 3 is another construction example of the intersection line of the advertising board according to the invention,

Figure 4 is a further construction example of the intersection line of the advertising board according to the invention,

Figure 5 is a still further construction example of the intersection line of the advertising board according to the invention,

Figure 6 shows a construction example of the information-displaying surface of the advertising board according to the invention in axonometric view,

Figure 6a is the cross section of figure 6 in the plane VI-VI,

Figure 6b is the cross section of figure 6 in the plane Y-Y,

Figure 7 shows a further axonometric picture of the information-displaying surface of the advertising board according to the invention,

Figure 7a is the cross section of figure 7 in the plane VII-VII,

Figure 7b is the axonometric picture of the cross section of figure 7a in the plane X-X,

Figure 7c is the cross section of figure 7a in the plane Y-Y,

Figure 8 is a further construction example of the advertising board according to the invention in front view,

Figure 8a is the cross section of figure 8 in the plane VIII-VIII,

Figure 9 shows the intersection line of a further construction form of the advertising board according to the invention,

Figures 9a and 9b show the information-displaying surfaces seen from viewpoints C and D of figure 9,

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Figure 10 shows the intersection line of a further construction form of the advertising board according to the invention,

Figures 10a and 10b show the information-displaying surfaces seen from viewpoints C and D of figure 10,

#### The presentation of the invention in detail

Figures 1 and 1a show the arrangement of the information-displaying surface of an ideal advertising board according to the invention. The information-displaying surface 6 of the advertising board is positioned beside a road with a given path 2. The direction of travel on the road has been marked with an arrow. It is possible to mark out that section of road on the road with a given path from where it is possible to see the advertising board with the information placed on it. The observer sitting in the vehicle first sees the advertising board from the starting point of observation „A” and receives information about the advertising board for the last time when passing the final point „B”. In order for as much information as possible getting to the observer without distortion is a way that can be enjoyed, the information-displaying surface 6 of the advertising board has to be seen face on. In an ideal case travelling on a road with a given path 2 on reaching the starting point „A” the observer sees a part of the information-displaying surface 6 of the advertising board face on, then progressing along the road with a given path the observer always sees a further part of the surface face on, and at the final point „B” when looking at the advertising board for the last time there is still a part of the information-displaying surface that can be seen face on. In the way that can be seen in figure 1 the distance between the starting point „A” and final point „B” of observation has been divided into equal sections, and the last section has been halved. Connecting the starting points of the sections with the theoretical centre point of the advertising board with straight lines 3, each straight line 3 can be given a perpendicular tangent section 4. Making the tangent sections 4 of equal length and putting them together you get the ideal information-displaying surface 6 as shown on figure 1a. On the road with a given path when dividing the distance between the starting point „A” and final point „B” of observation in to increasingly

smaller sections, the length of the tangent sections is also reduced, so in the extreme case to sections of zero length, so with the surface broken up into points an ideal curve surface is created. For an observer travelling on the road with a given path this curve surface continuously has a part that can be seen face on. Starting from the ideal information-displaying surface depending on the purpose of the advertisement an extremely large number of types of surfaces can be formed. From the direction of travel advertising boards of various form can be made so that during the movement between the two edge points of observation, the starting point „A” and the final point „B”, there will always be a point of the board that can be seen „face on”. By making the information-displaying surface into a plane or spatially curving it can be attained that when travelling on the road with a given path various parts of the board can be seen „face on” from the observation points. This arrangement of the information-displaying surface makes it possible to mark the centre of the scene of the advertising board from anywhere between the starting point „A” and the final point „B”. For example, the attention-grabbing aim determines that recognition from a large distance is more significant, or that the displaying of legible information from a closer distance is the more important task. In accordance with this in the light of the information to be displayed the information-displaying surface is arranged in accordance with the intention of the advertiser. Depending on the goods or service to be advertised the information-displaying surface may have several points that can be seen face on at the same time. These measures show the variability of the advertising board, and its easy adaptation to the given task.

On figure 2 the advertising board with its information-displaying surface 6 has been placed beside the road with a given path 2. Travelling on the road with a given path 2 in the direction of the arrow marked we have marked two viewpoints „C” and „D”. Planes can be set up through the straight line 5 connecting these points, from among which planes those planes may be selected that dissect the information-displaying surface. Of the planes at least one „a” plane dissects the information-displaying surface 6 of the advertising board at the intersection line 1. According to the idea of our invention from viewpoints „C” and „D” of the road with a given path 2 various sections of the intersection line 1 can be seen face on. The length of the sections is always set by the given arrangement, so the extent of the

section can range from a point, to the total length of the planar cross section. The information-displaying surface may be set up in very many different ways, as a consequence of this more than two sections of the intersection line may also meet the previous condition. The advertising board can be formed with planar or spatially curved information-displaying surface parts, so the mentioned sections of the intersection line may be straight, arced or other curved lines. So from the point of view of our invention the sections of the intersection line can be straight lines, curves of various length, or a section of zero length in the extreme case, in other words a point.

Figures 3-5 show the various forms of the intersection line determined previously. The supporting structure of the advertising board and the fixing of the information-displaying surface to the supporting structure are solutions known in themselves, and they are dependent on the local features, so we will not discuss these separately and have not shown them on the figures. In connection with the advertisement placed on the information-displaying surface in figure 3 the requirement was for the observer to first meet a large, „ostentatious” advertising element and to only recognise more precise details later. In the interest of reaching this aim the advertising board was made with a planar surface, in other words the generators of the advertising board are straight and the board is essentially parallel to the road with a given path 2, only the section with the „ostentatious” advertising element is curved in a direction perpendicular to the road. The intersection line 11 consists of an arced section 14 and a straight section 15. Travelling on the road with a given path 2 in the direction of the arrow shown the tangent of the intersection line is perpendicular to the straight line 3 drawn from viewpoint „C” and „D”, in other words the information-displaying surface is seen face on. In this case the information-displaying surface has several points that are seen face on from the road with a given path 2.

Figure 4 shows another construction example of the intersection line explained above of the information-displaying surface of the advertising board according to the invention. We have marked the same elements with the same reference marks as in figure 3. In this and further examples we will only explain differing arrangements showing the reference marks belonging to them. In the example we have placed an advertising board beside the road with a given path with vertical,

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straight generators. The intersection line 21 is made up of two arced sections 24, 25. The radii of the arced sections may be the same, but special effects can be attained even if the radii are of different lengths. By making the information-displaying surface of the advertising board with similar or significantly different curves innumerable, surprising advertising effects can be attained.

Naturally the advertising board according to the invention does not only have to be placed perpendicular to the plane of the road. Our protection demand also extends to an advertising board placed beside the road with a given path at any angle that realises the idea of the invention. In accordance with this the advertising board can be placed beside the road with a given path „tilted”, in other words in a way so that it is at an angle with the plane of the road or even above the road with a given path. In these cases also two points may be determined on the road with a given path through which planes may be set up. Of these planes those may be selected that dissect the information-displaying surface of the advertising board. In this case also from at least two points various sections of the intersection line can be seen face on.

A further embodiment of the advertising board according to the invention can be seen in figure 5. We have shown the starting point of observation „A” and the final point of observation „B” on the bending road with a given path 12. The intersection line 31 is made up of several curved line sections 34, 35, 36, and on the figure the chord lines of the arcs form the information-displaying surface. The arcs can be described by third-degree vector-scalar functions.

The third-degree vector-scalar function equation system known in mathematics can be described in the following:

$$x(t) = a_{11}t^3 + a_{12}t^2 + a_{13}t + a_{14}$$

$$y(t) = a_{21}t^3 + a_{22}t^2 + a_{23}t + a_{24}$$

where  $-1 < t < 1$ .

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The curve becomes concrete with the definition of the coefficient  $a_{ik}$ . There are eight unknowns, with eight independent pieces of data the curve can be made definite. Let the eight pieces of data be the following:

The co-ordinates of the starting point of the curve „K” are  $(x_1, y_1)$ , the co-ordinates of the final point „V” are  $(x_2, y_2)$ . The vectors of the tangents of the starting point „K” and final point „V” are  $(u_1, v_1)$  and  $(u_2, v_2)$ . From these data by solving a simple linear equation system the curve length can be clearly determined, as a consequence of which the advertising material can be designed easily so as to make it applicable to the advertising board according to the invention without deformation. The determination of the curve can be further refined, if we specify the radii of the circles of curvature in the endpoints of the curve. Let's view the formula determining the curvature, but we algebraize the curvature on the basis of the related circle of curvature according to the traditional mathematical description of the circle. The formula:

$$\kappa(t) = \frac{\dot{x}(t)\ddot{y}(t) - \dot{y}(t)\ddot{x}(t)}{\sqrt{(\dot{x}(t)^2 + \dot{y}(t)^2)^3}}, \text{ and } R(t) = \frac{1}{\kappa(t)}$$

where  $R(t)$  is the algebraic radius of the circle of curvature and  $(t)$  the algebraic curvature.

Henceforward we will treat the tangent vectors as unit length. The question remains as to how long the tangent vector in the starting point „K” should be, if there the circle of curvature has radius  $R_1$  and how long the tangent at the final point „V” should be if there the circle of curvature has radius  $R_2$ .

On the basis of the conditions (for example: József Szabó: A curve arc with two open problems, Zeszyty Naukowe: Politecnicki Śląskie, Seria: Geometry i Grafika Inżynierska z. 1. 1996, according to that written on pages 71-78) we get to a conditional equation system, which is the following:

$$\alpha^2 + R_1 A \beta - 1.5 R_1 B = 0$$

$$R_2 A \alpha + \beta^2 + 1.5 R_2 C = 0,$$

where

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$$A = u_1 v_2 - u_2 v_1, \quad B = u_1 d_2 - d_1 v_1, \quad C = u_2 d_2 - d_1 v_2,$$

where  $d_1, d_2$  are the co-ordinates of the vector pointing from the starting point to the final point.

The equation system can be solved using numerical methods or using formula handling software (like e.g. Mathematica, Maple). The radius of the circle of curvature can be scaled with the distance of the advertising board from the road, just as the observer travels on the road towards the board.

The information-displaying surface of the advertising board can be manufactured as a continuous surface from metal or plastic, which also needs to be protected against the effects of the weather. The information-displaying surface may also be formed from separate elements. On figure 5 the information-displaying surface is made from separate elements 7. The separate elements can be placed next to one another, they may overlap one another, or may follow one another after gaps.

The separate elements are placed next to one another so that the observer travelling on the road with a given path senses the information-displaying surface as a continuous surface from the point of view of the visual effect. In other words the gap between the separate elements may only be of such a size so that, taking into consideration the distance of the advertising board from the road, the size of the information-displaying surface and the advertising elements placed on it, the gaps do not influence the visual effect. As is shown on figure 5 the separate elements 7 register to the curved line section 34, 35 and 36 of the intersection line. The separate elements 7 may be straight slabs in form, but they may also be arced cross section cylindrical surfaces with straight generators or even barrel-shaped.

The separate elements are fixed in the supporting structure of the advertising board. The advantage of this set up is that the advertising board is simpler to manufacture and is less costly.

Figures 6, 6a and 6b show a further construction example of the information-displaying surface of the advertising board according to the invention. The information-displaying surface 16 is a three-dimensional curve that has two sections that are curved in two planar cross sections at right angles to one another. The information-displaying surface 16 is formed with a protrusion 8. An

advertising element that creates a special effect can be positioned on this protrusion 8.

Figures 7, 7a, 7b and 7c show a further construction of the information-displaying surface 17 of the advertising board according to the invention. The protection demand of our invention extends to advertising boards in which the attention-grabbing effect is attained with a supplementary element protruding from the information-displaying surface or with the omission of a part of the information-displaying surface. On figure 7 a folded-in supplementary surface 9 has been connected to the information-displaying surface 17. Furthermore, the information-displaying surface 17 has a cut-out 10.

The advertising board shown in figures 3-7 is produced and used in the following way. First you have to select the road beside which you wish to install the advertising board, and you have to decide what product or service you wish to advertise. You also have to make a decision in the question of what those advertising techniques and advertising elements are with which you want to attain special effects. In the knowledge of these boundary conditions the graphic design or similar advertisement-carrying element to be placed on the information-displaying surface of the advertising board can be designed. The next step is the determination of the information-displaying surface of the advertising board, which, for example, can be done using the function presented earlier. The information-displaying surface is bent from an appropriate material, metal plate for example, and fixed to the supporting structure of the advertising board. Henceforward, the advertising board is set up in the traditional way beside the road with a given path, then the advertising elements and/or graphic designs are placed onto the information-displaying surface.

In the case that we wish to advertise other products or services then the information-displaying surface has to be redesigned in accordance with the new requirement and a new board has to be used, or new advertising designs or advertising elements may be placed on the existing surface.

On figure 8 and 8a we present an embodiment of the advertising board according to the invention which extends the possibilities of use and makes one manufactured advertising board suitable for presenting several advertising carriers. On figure 8 we have shown the supporting structure 80 of the advertising

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board, in which the axles 84 of the plates 83 are fixed so that they may rotate. The precise positioning of the plates 83 is made easier by the setting discs 85. The sum total of the surface of the plates 83 creates the information-displaying surface 18 onto which the advertising elements are to be placed. The supporting structure 80 of the plates has been set up in the way that can be seen in figure 8a, so that the axles 84 of the plates are placed on an intersection line determined according to what was presented in the earlier examples. The plates 83 may rotate around their own axes and be fixed after rotation. With the determination of the intersection line containing the fixing points of the axles 84 and due to this with the setting of the plates 83 special advertising effects can be attained even in the case of different types of graphic design.

In the way that can be seen in figure 8a the supporting structure 80 of the advertising board is placed as compared to the road with a given path so that the beginning and end of the supporting structure are at right angles to one another and the axles of the plates 84 are fitted into the arced supporting structure between the two ends. A positioning that may also be advantageous is when the axles of the plates are fitted into a supporting structure at an angle of 45° to the given path of the road. In cross section perpendicular to the axis of rotation of the plates the plates are polygons, the front of which is straight and/or arced or curved. On figure 8a the cross section of the plates 83 perpendicular to the axis of rotation is rectangular, but our sphere of protection also includes an equilateral triangle or a polygon with arced sides.

After setting the plates 83 they are fixed, then the advertising elements are placed on the surfaces of the plates by painting, gluing or by other known ways. The structure is set up in such a way so that beside the plates rotated and fixed in the supporting structure of the advertising board on the road with a given path 2 in the direction marked by the arrow when progressing between the starting point „A” and final point „B” of observation there are at least two points on the road with a given path from which various sections of the intersection line of at least one plane containing a straight line drawn through the points and the information-displaying surface 18 can be seen face on.

The special advantage of this arrangement according to the invention is that it permits greater flexibility in the application of advertising graphic designs. The

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same board is suitable for the application of several types of graphic design or advertising element. By changing the settings of the plates the goods or service to be advertised and the position of the element to be emphasised can be relatively easily changed. The attention-grabbing effect can also be attained if the plane connecting the axes of the plates is parallel to the road with a given path, and only the plates are rotated.

On the basis of figures 9, 9a, and 9b we explain the procedure for setting the advertising boards according to the invention. Columns 91 and 92 of the supporting structure of the advertising board are fixed at the place of installation of the board. The columns are set up in a way that is known in itself, and their material may be metal, wood or concrete, for example. The information-displaying surface of the advertising board is made up of elements 93 that may be rotated with respect to one another in such a way that the length of the sum total of the elements is greater than the distance between the columns 91 and 92. In accordance with the above we determine the optimal intersection line from the point of view of advertising graphic design and we rotate the elements 93 with respect to one another so that they register to the intersection line. After setting the elements 93 they are fixed against rotation and then the advertisement graphic design is placed onto the information-displaying surface made in this way.

As it can be seen on the figures, the advertising board is set up and positioned beside the road with a given path 2 in such a way so that from the direction of an observer on the road travelling in the direction marked by the arrow a part of the information-displaying surface covers the rest of the surface. On approaching the advertising board the observer first sees only two segments of the board the rest of the board is covered. Progressing further on the road an increasingly larger part of the advertising board becomes visible. An advertising board set up according to the procedure according to the invention multiplies the application possibilities. In this case you do not have to make a new board for every single graphic design, instead the same advertising board can be used on several occasions.

Figures 10, 10a and 10b show a further example of the application of the procedure. Figure 10 shows a construction form of an advertising board in which column 91 of the supporting structure of the advertising board is installed fixed, the other column 101, however, may be moved, in other words to present a new

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design column 101 may be moved and fixed in another place. Figures 10a and 10b show the information-displaying surface 20 of the advertising board and what an observer will see from points „C” and „D” of the road with a given path 2. The procedure according to the example for the setting up of an advertising board exceptionally expands the possibilities of use when the form of the information-displaying surface of the advertising board and, over and above this, the distance between the columns fixing the advertising board can be changed.

## List of References

- 1 intersection line
- 2 road with a given path
- 3 straight line
- 4 tangent section
- 5 straight line
- 6 information-displaying surface
- 7 separate element
- 8 protrusion
- 9 supplementary surface
- 10 cut-out
- 11 intersection line
- 12 road with a given path
- 14 arced section
- 15 straight section
- 16 information-displaying surface
- 17 information-displaying surface
- 18 information-displaying surface
- 19 information-displaying surface
- 20 information-displaying surface
- 21 intersection line
- 22 road with a given path
- 24 arced section
- 25 arced section
- 31 intersection line
- 34 curved line section
- 35 curved line section
- 36 curved line section
- 80 supporting structure
- 83 plate
- 84 axle

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85 setting disc

91 column

92 column

93 element

101 column

a plane

A starting point

B final point

C viewpoint

D viewpoint

K starting point

V final point

## Claims

1. Advertising board which is positioned beside a road with a given path (2, 12, 22) and which has a supporting structure and an information-displaying surface (6, 16, 17, 19, 20), and the information-displaying surface (6, 16, 17, 19, 20) is not a plane surface or a quadric, axially symmetrical, straight cylindrical surface **characterised by** that the information-displaying surface (6, 16, 17, 19, 20) is positioned beside the road with a given path (2, 12, 22) so that when progressing between the starting point (A) and final point (B) of observation there are at least two points (C, D) from which various sections of the intersection line (1, 11, 21, 31) of at least one plane (a) containing a straight line (5) drawn through the points and the information-displaying surface (6, 16, 17, 19, 20) can be seen face on.
2. Advertising board according to claim 1 **characterised by** that a part of the information-displaying surface (19, 20) partially covers the other part of the information-displaying surface (19, 20) from the point of view of an observer approaching it.
3. Advertising board according to claim 1 or 2 **characterised by** that the intersection line (1, 11, 21) consists of one or more equal or different regions.
4. Advertising board according to claim 3 **characterised by** that the intersection line (11, 21) consists of straight and arced or several arced regions where their chord lines can also form arcs.
5. Advertising board according to claim 3 **characterised by** that the intersection line can consist of one or more arced regions, splines determined by third-degree, vector-scalar functions, where their chord lines can also form the arcs and splines.
6. Advertising board according to any of claims 1-5 **characterised by** that the cross section of the information-displaying surface (6, 19, 20) vertical to the road with a given path (2) is straight.
7. Advertising board according to any of claims 1-5 **characterised by** that the cross section of the information-displaying surface (6, 19, 20) vertical to the road with a given path (2) is not straight.

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8. Advertising board according to any of claims 1-7 **characterised by** that there are cut-outs (16, 17) or protrusions (8) on the information-displaying surface (16, 17).
9. Advertising board according to any of claims 1-8 **characterised by** that there are stationary or moving advertising elements, for example, letters or drawings, on the one and/or the other side of the information-displaying surface (6, 16, 17, 19, 20).
10. Advertising board which is positioned beside a road with a given path (2, 12, 22) and which has a supporting structure and an information-displaying surface (6, 16, 17, 19, 20), and the information-displaying surface (6, 16, 17, 19, 20) is not a plane surface or a quadric, axially symmetrical, straight cylindrical surface **characterised by** that the information-displaying surface of the advertising board is formed of separate elements so that the surface is seen as a continuous surface for an observer travelling in front of it from the point of view of the visual effect and the information-displaying surface is positioned by a road with a given path (12) so that when progressing between the starting point (A) and final point (B) of observation there are at least two points (C, D) from which various sections of the intersection line (31) of at least one plane (a) containing a straight line (5) drawn through the points and the information-displaying surface (6, 16, 17, 19, 20) can be seen face on.
11. Advertising board according to claim 10 **characterised by** that there is a gap between the separate elements (7), which is not be greater than 50% of the length of the two neighbouring elements.
12. Advertising board according to claim 10 or 11 **characterised by** that a part of the information-displaying surface partially covers the other part of the information-displaying surface from the point of view of an observer approaching it.
13. Advertising board according to any of claims 10-12 **characterised by** that the separate elements (7) of the information-displaying surface are registered on an intersection line (31) consisting of one or more regions of the same or different size.

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14. Advertising board according to claim 13 **characterised by** that the separate elements (7) of the information-displaying surface meet intersection lines consisting of straight or arced or several arced regions, where their chord lines may also form arcs.
15. Advertising board according to claim 13 **characterised by** that the separate elements (7) of the information-displaying surface meet intersection lines (31) consisting of curved regions, splines (34, 35, 36) determined by one or more third-degree, vector-scalar functions, where there chord lines can also form the arcs and splines.
16. Advertising board according to any of claims 10-15 **characterised by** that there are cut-outs or protrusions on the on the separate elements (7) of the information-displaying surface.
17. Advertising board according to any of claims 10-16 **characterised by** that the vertical cross section of the separate elements (7) of the information-displaying surface vertical to the road with a given path (12) is straight.
18. Advertising board according to any of claims 10-16 **characterised by** that the vertical cross section of the separate elements (7) of the information-displaying surface vertical to the road with a given path (12) is not straight.
19. Advertising board according to any of claims 10-18 **characterised by** that there are stationary or moving advertising elements, for example, letters or drawings, on the one and/or the other side of the information-displaying surface.
20. Advertising board which is positioned along a road with a given path (2) and which has a supporting structure (80) and an information-displaying surface (18) and the information-displaying surface (18) is not a plane surface or a quadric, axially symmetrical, straight cylindrical surface **characterised by** that the information-displaying surface (18) is made up of separate elements, the separate elements are formed by plates (83) that can be rotated about an axle (84) and fixed after rotation, the axles (84) of the plates are positioned along a line that is straight in cross section perpendicular to the axles or not straight, and the plates (83) set up so that when progressing between the starting point (A) and final point (B) of observation of the advertising board there are at least two points (C, D) from which various sections of the intersection line of at least one plane containing a

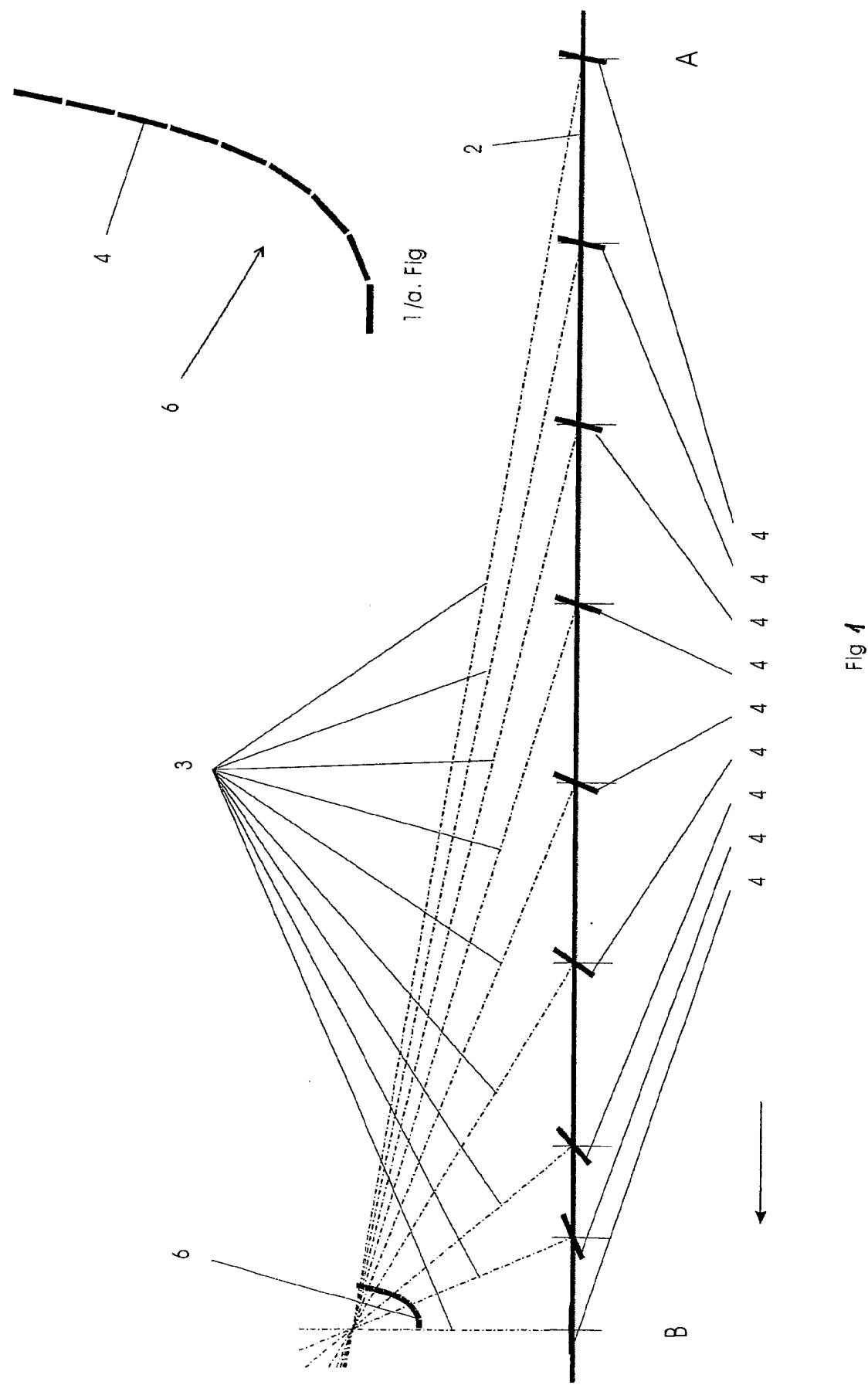
- 22 -

straight line drawn through the points and the information-displaying surface can be seen face on.

21. Advertising board according to claim 20 **characterised by** that the axles (84) of the plates in the supporting structure (80) that permits the rotation are positioned along a quarter arc beside the path of the given road (2).
22. Advertising board according to claim 20 **characterised by** that the axles (84) of the plates are positioned in the supporting structure (80) that permits the rotation along a straight line at 45° to the path of a road with a given path (2).
23. Advertising board according to any of claims 20-22 **characterised by** that the cross section of the information-displaying surface (18) perpendicular to the plane of the road with a given path (2) is straight.
24. Advertising board according to any of claims 20-22 **characterised by** that the cross section of the information-displaying surface (18) perpendicular to the plane of the road with a given path (2) is not straight.
25. Advertising board according to any of claims 20-24 **characterised by** that there are stationary or moving advertising elements, for example, letters or drawings, on the one and/or the other side of the information-displaying surface (18).
26. Advertising board according to any of claims 20-25 **characterised by** that the form of the plates (83) in cross section perpendicular to the axis of rotation is a straight or curved edge polygon, or curved line.
27. Procedure for setting up an advertising board, which advertising board has a supporting structure containing columns (91, 92, 101) and an information-displaying surface (19, 20), where the information-displaying surface (19, 20) is set up from elements that are connected to one another in such a way so that they can move as compared to each other in such a way so that when progressing between the starting point (A) and final point (B) of observation there are at least two points (C, D) from which various sections of the intersection line of at least one plane containing a straight line drawn through the points and the information-displaying surface can be seen face on **characterised by** that the elements (93) of the information-displaying surface are rotated with respect to one another

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according to the requirement of the visual effect of the advertising element to be placed in the surface, then the elements are fixed.



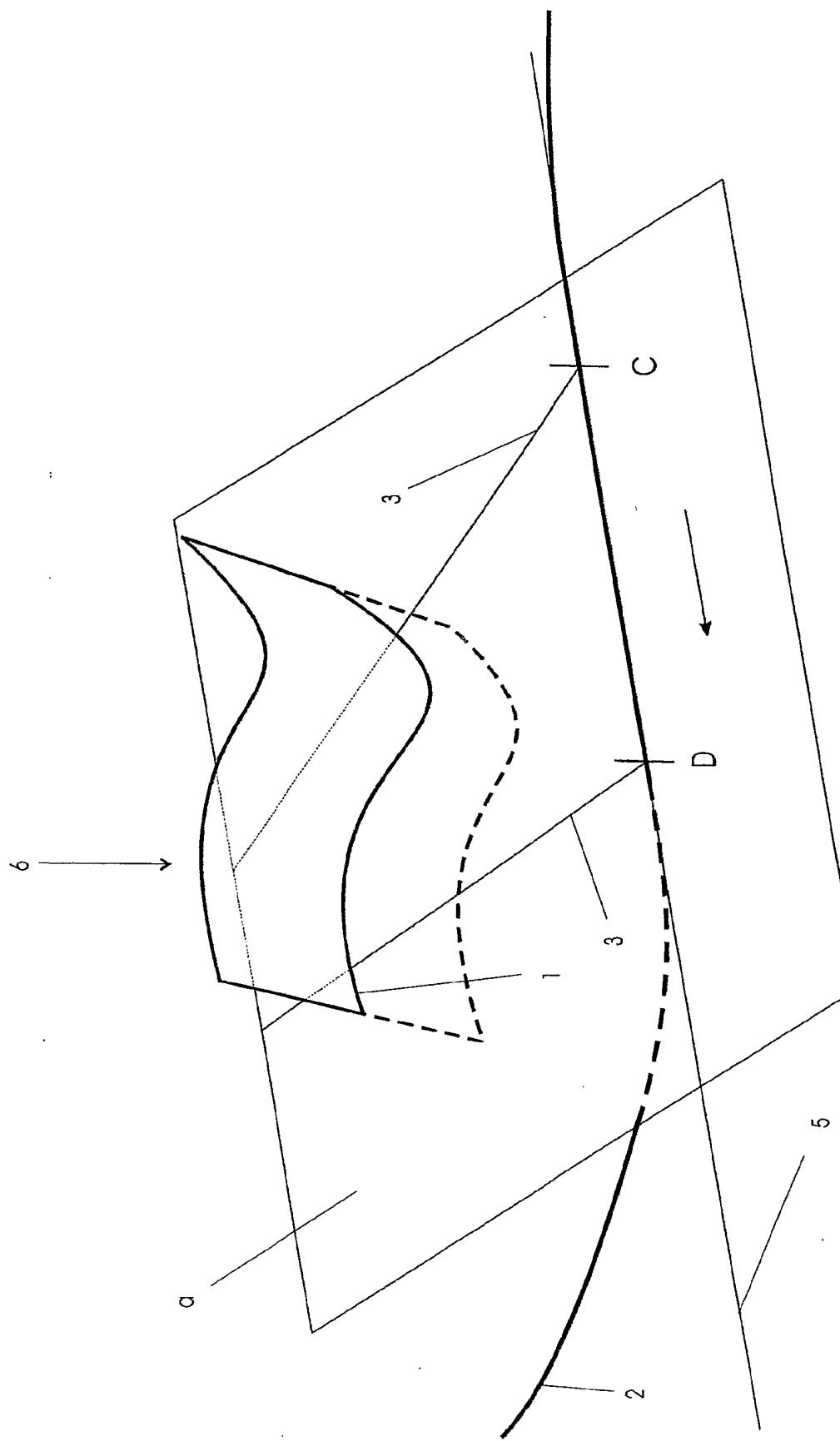


Fig. 2

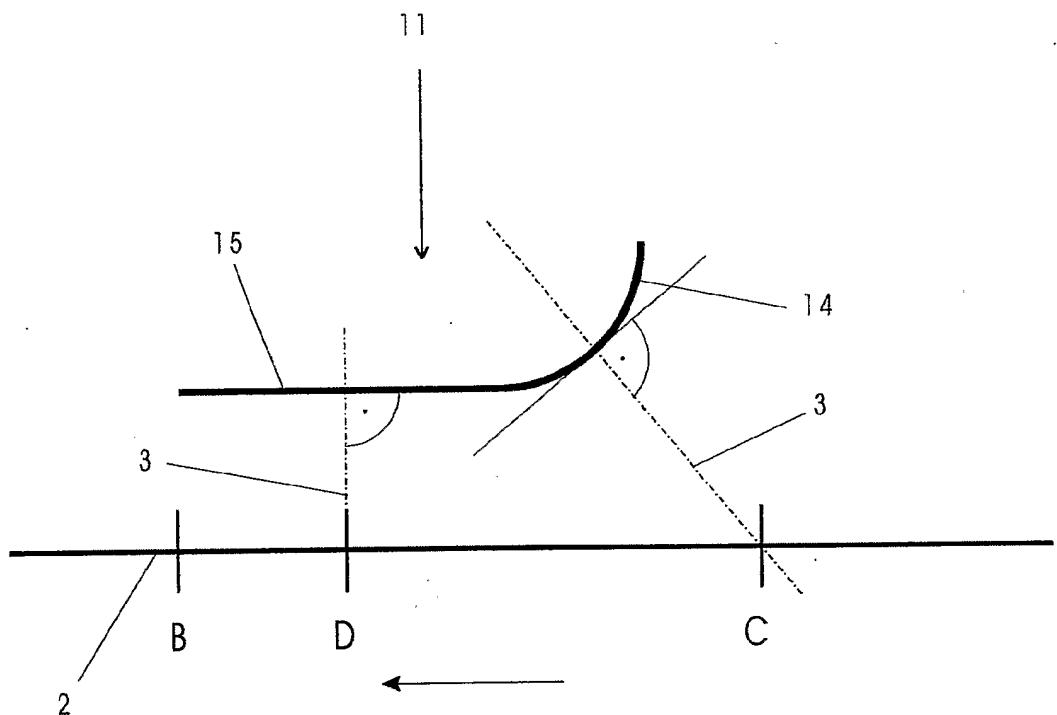


Fig 3

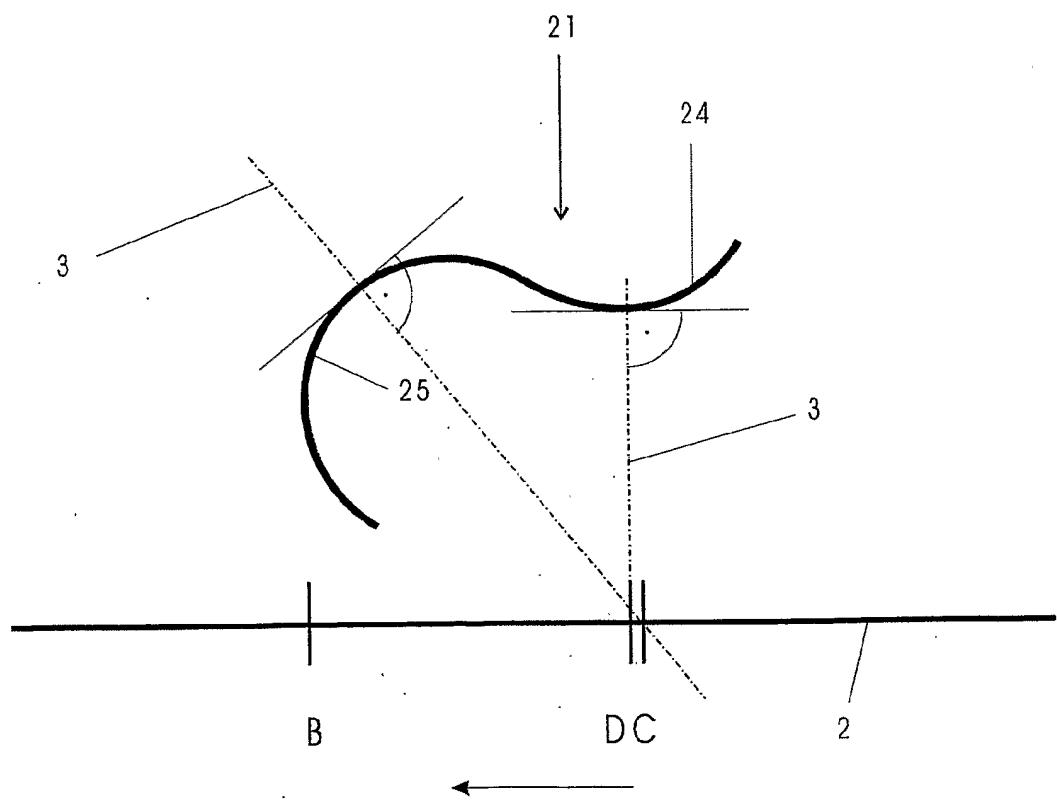


Fig 4

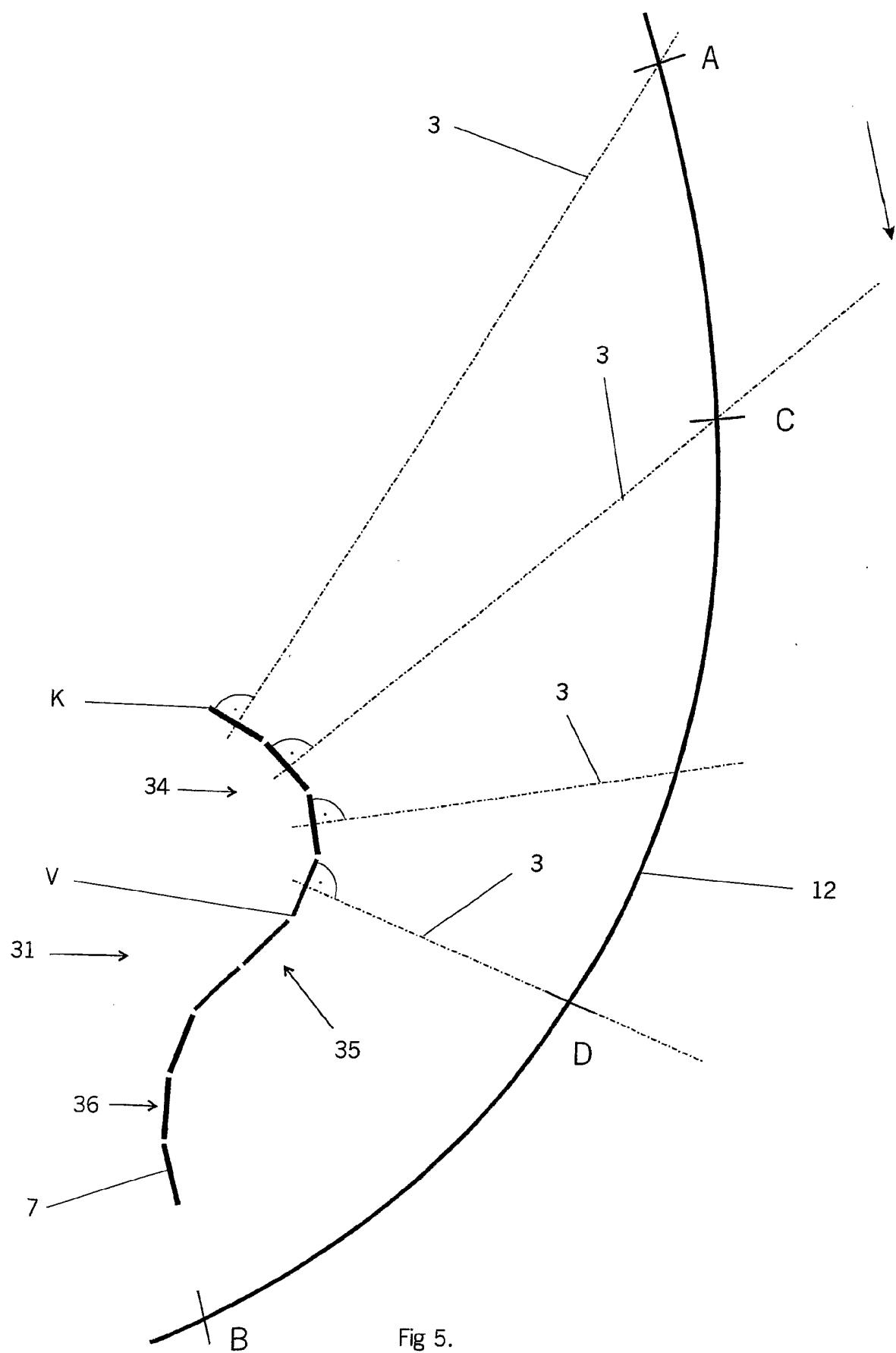


Fig 5.

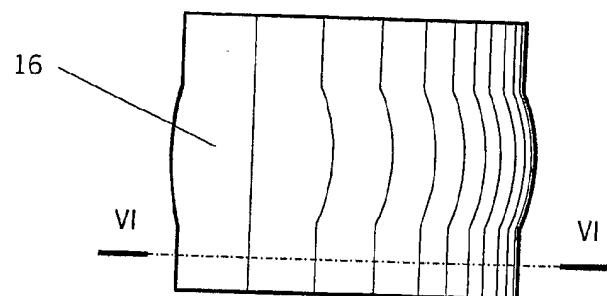


Fig. 6.

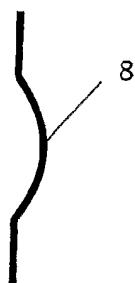


Fig. 6.b

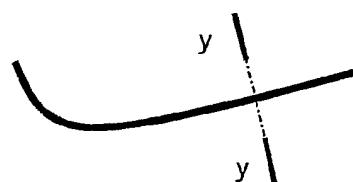


Fig. 6.a

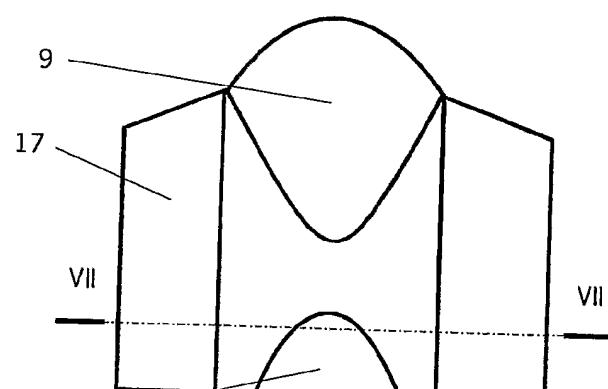


Fig. 7.

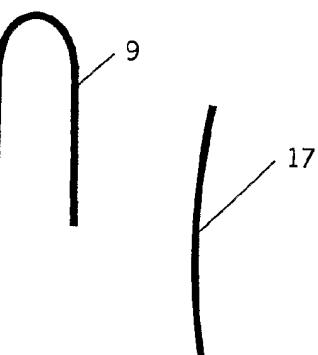


Fig. 7.b

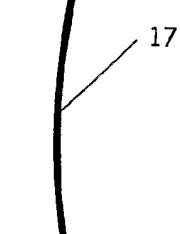


Fig. 7.c

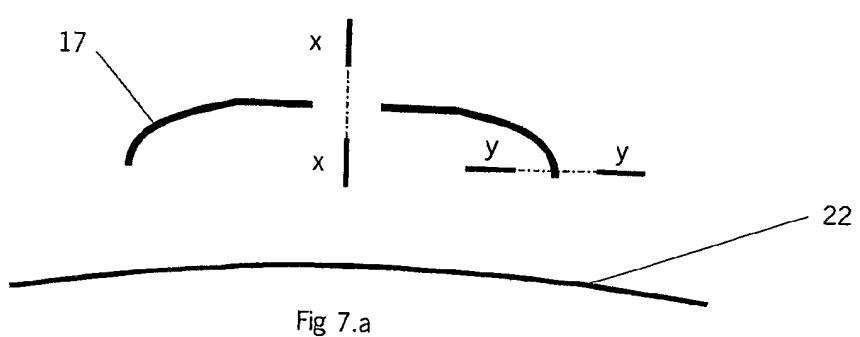


Fig. 7.a

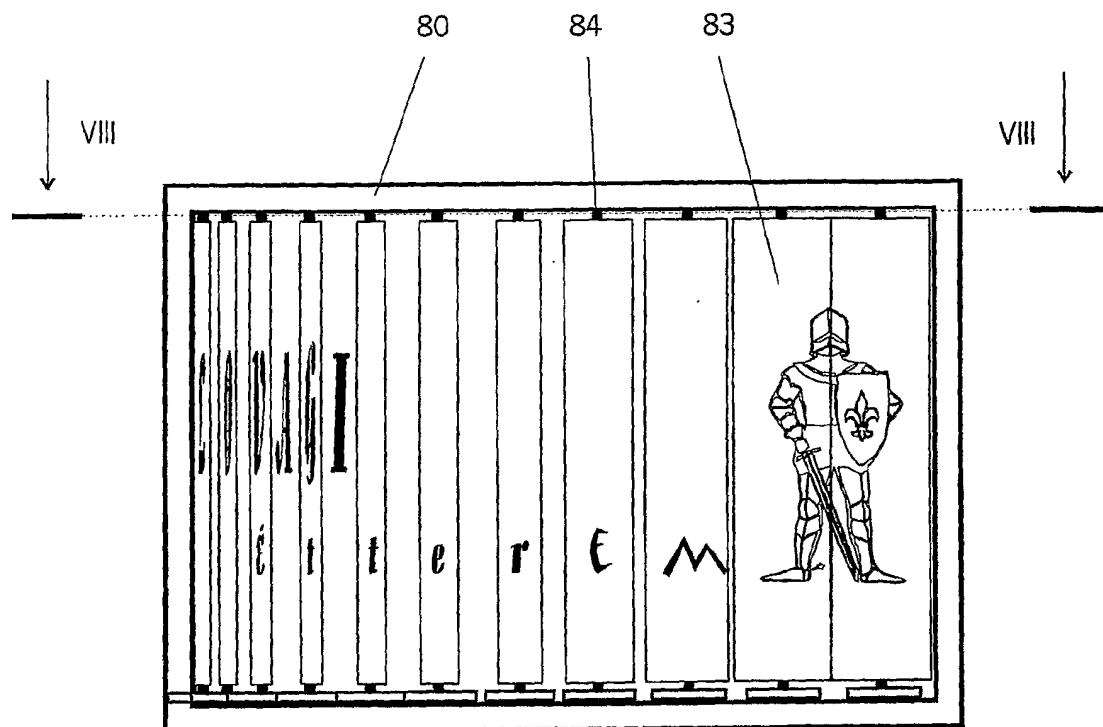


Fig. 8.

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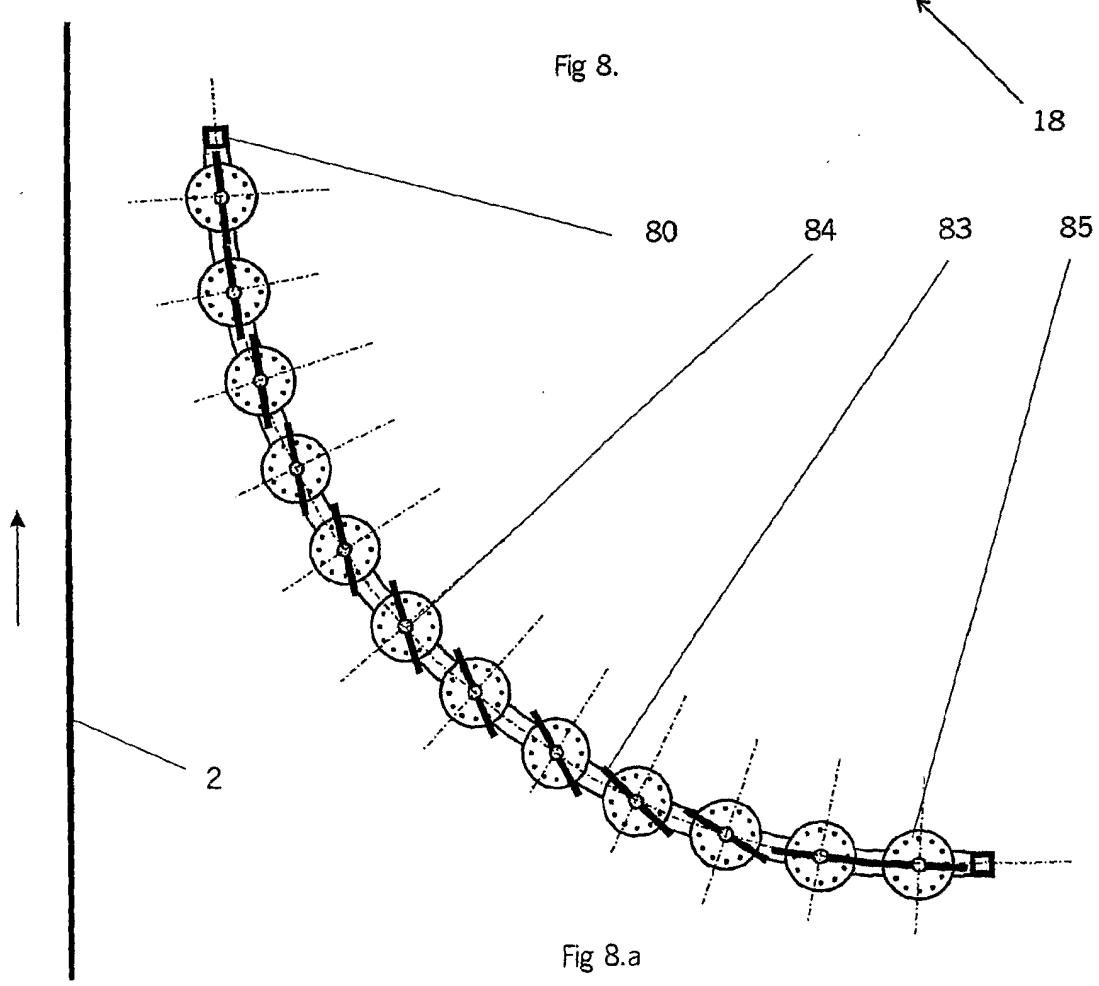
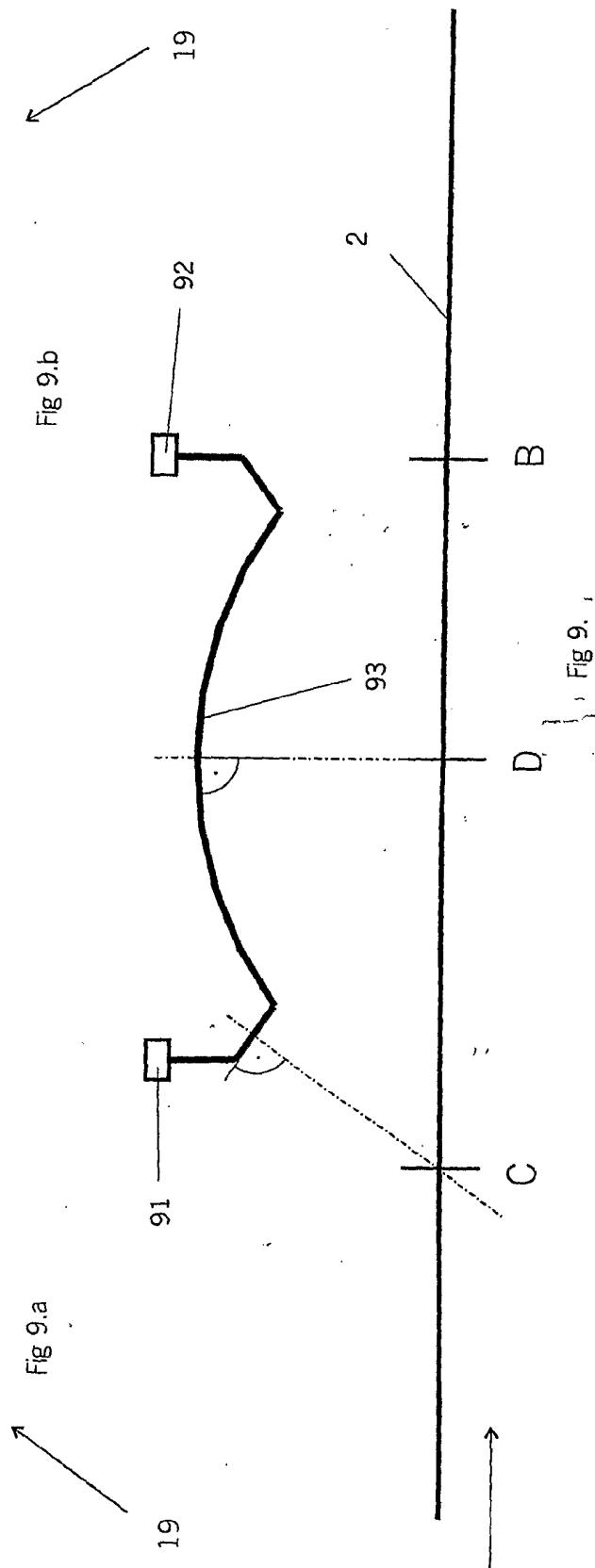
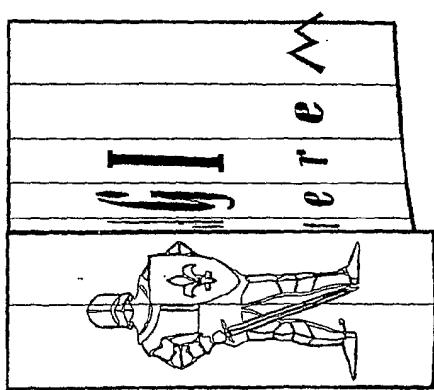
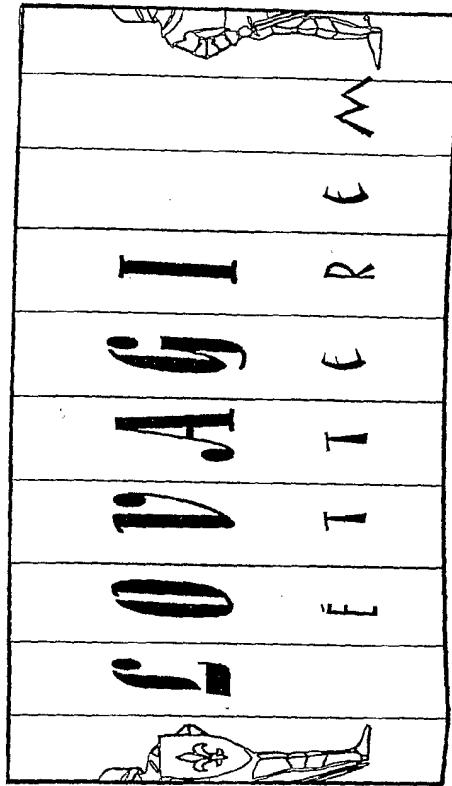
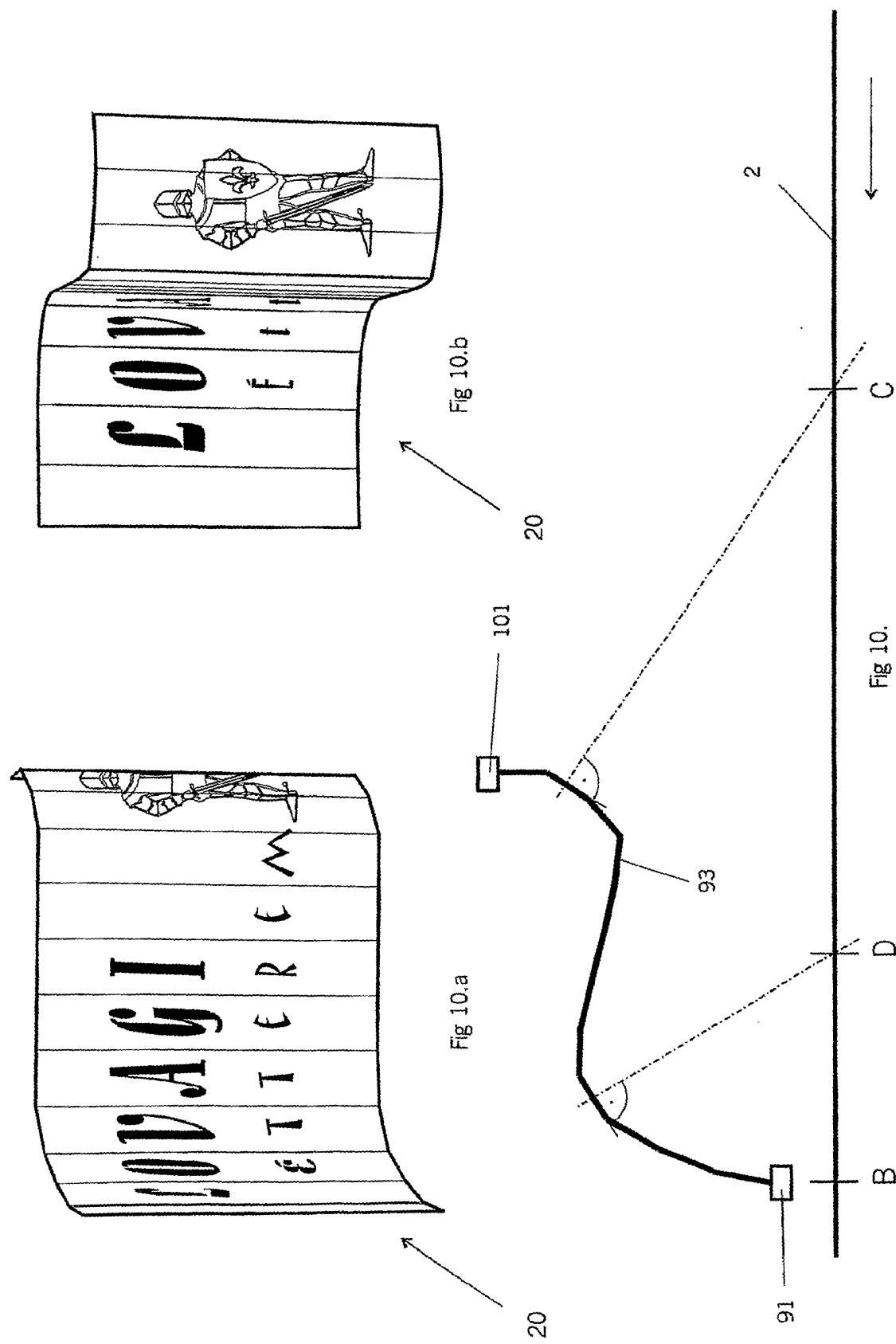


Fig. 8.a





# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/HU 02/00173

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 G09F19/22

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G09F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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X	CH 677 415 A (JULIUS MUELLER) 15 May 1991 (1991-05-15) column 3, line 53 –column 4, line 5 figure 4 ---	1-27
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A	---	2-27
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Date of the actual completion of the international search  12 August 2003	Date of mailing of the international search report  20/08/2003
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer  Pantoja Conde, A

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/HU 02/00173

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