

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 713 204 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
22.05.1996 Bulletin 1996/21

(51) Int. Cl.⁶: **G09F 19/22**

(21) Application number: **95117829.2**

(22) Date of filing: **13.11.1995**

(84) Designated Contracting States:
**AT BE CH DE DK ES FR GB GR IE LI LU MC NL
PT SE**

(30) Priority: **16.11.1994 IT GE940036**

(71) Applicant: **Endrizzi, Massimo**
I-16032 Camogli, Genoa (IT)

(72) Inventor: **Endrizzi, Massimo**
I-16032 Camogli, Genoa (IT)

(74) Representative: **Porsia, Attilio, Dr.**
c/o Succ. Ing. Fischetti & Weber
Via Caffaro 3/2
I-16124 Genova (IT)

(54) Device for displaying messages and message produced with said device

(57) Device for displaying messages comprising a writing medium (1) on which the symbols representing the message are formed, and a tool for drawing said symbols. The writing medium consists of a base (2) with at least one viewing surface from which there project a plurality of mutually adjacent fibrous elements (3, 3') with a predetermined high density and length. The fibrous elements (3, 3') have a flexibility such as to maintain a predetermined orientation imparted to them by brushing them with a drawing/brushing tool and are re-orientatable at will, said fibrous elements (3, 3') being such as to reflect the light with different light intensities or shades of colour (4, 5) depending on the angle of incidence of the light on their surfaces, that is to say depending on their orientation with respect to the base.

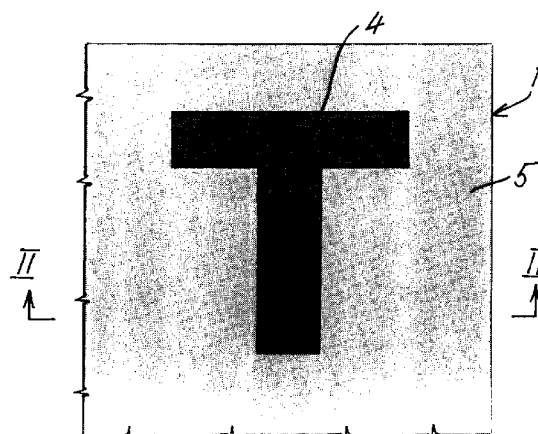


Fig. 1

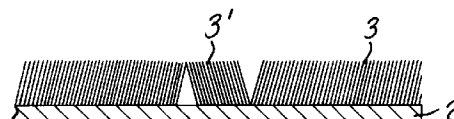


Fig. 2

EP 0 713 204 A1

Description

The invention relates to a device for displaying messages and to messages produced with said device.

It is an object of the invention to provide a device of the above kind which allows the production of messages having a variable content and on which messages can therefore easily be erased and easily rewritten, and all thanks to the use of exceedingly simple, inexpensive and purely mechanical means.

The invention achieves the above objects with a device as described at the beginning, comprising a writing medium on which the symbols representing the message are formed, and a tool for drawing said symbols, the writing medium consisting of a base with at least one viewing surface from which there project a plurality of mutually adjacent fibrous elements with a predetermined high density and length, which fibrous elements have a flexibility such as to maintain a predetermined orientation imparted to them by brushing them with a drawing/brushing tool and are re-orientatable at will, said fibrous elements being such as to reflect the light with different light intensities or shades of colour depending on the angle of incidence of the light on their surfaces, that is to say depending on their orientation with respect to the base.

A device of this type allows the symbols that form the message to be drawn with a simple drawing/brushing tool which may be a simple spatula, comb, brush, a finger of the hand or any other device suitable for imparting a predetermined inclination to the fibrous elements with respect to the base. The symbols, that is to say the lines will be visible owing to the different effects of colour or light intensity of the fibrous elements in their different orientations.

The different effects of intensity or colour can be produced by specially shaping the surfaces of the fibrous elements, giving them for example surfaces having a structure shaped in such a way that different angles of incidence or reflection of the light produce different intensities of the reflected light or different shades of colour. This can be achieved by having surfaces with, for example, a plurality of tiny prismatic reliefs or ribs of triangular or polygonal cross section or the like and that lie at different angles with respect to the axes of the fibrous elements. In particular, it is also possible for the fibrous elements to be in the form of fine, narrow strips having different colours or gradations of the same colour on their two opposite faces.

It is also possible, as an alternative, to use natural fibrous elements, such as textile fibres as used for velvet or the like.

In one embodiment which is particularly advantageous for producing messages in large dimensions, the writing medium can be turf, as for example on sports fields or the like. Here the drawing/brushing tools may be the lawnmowers usually used for tending the turf.

The message displayed by this embodiment is not only exceedingly simple to write and erase, but is also surprisingly durable and intelligible.

The symbols are drawn by mowing along the surface of the line corresponding to the symbol so that the blades of grass are given a uniform inclination differing from that in the area surrounding the symbol. The message is erased by causing all the blades of grass to revert to one identical orientation with respect to the base.

Other features of the invention will be described in the following description, with reference to the accompanying drawings, in which:

Fig. 1 is a plan view of a detail of an area of turf on which a symbol has been drawn.

Fig. 2 is a section along line II-II of Fig. 1.

With reference to Fig. 1, an especially advantageous embodiment of the invention is illustrated. An area of turf 1, in particular part of a sports field or the like, comprises a base layer 2, consisting of the soil in which the grass grows and a plurality of fibrous elements 3, 3', which are the blades of this grass with a predetermined high density.

In most cases the surfaces of the blades of grass are such as to reflect the light with different chromatic shades depending on their inclination, as is indicated by the differently screened fields 4 and 5 in Fig. 1. This may either be due to their different surface conformations or to the different shades of colour which blades of grass have, especially on their opposite flat sides.

The drawing of the symbols to form messages can take place simply during mowing; the lawnmower is moved around the predetermined shapes of the symbols in such a way as to produce a uniform inclination of the blades of grass on the surface of the symbol (area 4 in Fig. 1) that differs from the uniform inclination imparted to the blades of grass in the area around the symbols (area 5 in Fig. 1). It is also possible as an alternative to use some different drawing tool, such as for example a combing/brushing tool, e.g. a rake or other such implement.

The different inclinations imparted to the elements 3, 3' (Fig. 2) in the area around the drawn symbol on the one hand and within the shape of the symbol itself on the other (areas 4, 5 in Fig. 1) are the reason why, owing to the different chromatic effect of the reflected light, the symbol is recognizable and stands out chromatically from the surface surrounding it, thus being intelligible even from a considerable distance.

Erasing the symbol involves simply orientating the blades of grass in area 4 of the symbol in the same direction as the blades of grass in area 5 around it.

Once again, this is done either during mowing or by deliberately brushing it out.

Especially on sports fields, therefore, it is possible to display large scale messages that are intelligible from a very great distance, and no special technical devices are required or special media of other kinds, which however large are always of limited dimensions when com-

pared with an area of grass. The message can easily be erased and altered at will and at very little expense.

As for smaller writing media, it is possible to use other kinds of material such as textile fibres, e.g. velvet, or the like, or specially manufactured media surfaces comprising fibrous elements of e.g. plastic or the like standing on a base and whose surfaces on opposing sides present different shades of colour or different actual colours, or the structure of whose surfaces is such as to reflect the light with different shades of colour or with different intensities depending on the angle of reflection or of incidence of the light as it falls upon them. This may be achieved by providing the surfaces with small polyhedral reliefs whose faces are variously inclined, or with transverse ribs of polyhedral cross section and with variously inclined surfaces. In this embodiment it is also possible for the upward-facing surfaces of the prismatic reliefs or of the ribs on the fibrous elements to be of different colours or different shades of colour from the downward-facing surfaces. For the tool for brushing/orientating the elements it is possible to use spatulas or the like, or indeed the fingers of the hand.

The degree of stiffness or elasticity of the fibrous elements is not particularly critical, as it is sufficient that they maintain the orientation imparted to them by the drawing/brushing tool. It is also possible to use fibrous elements whose flexibility is such that they will lie flat in only two opposite alternative inclinations.

Claims

1. Device for displaying messages, characterized in that it comprises a writing medium (1) on which the symbols representing the message are formed, and a tool for drawing said symbols, the writing medium consisting of a base (2) with at least one viewing surface from which there project a plurality of mutually adjacent fibrous elements (3, 3') with a predetermined high density and length, with fibrous elements (3, 3') have a flexibility such as to maintain a predetermined orientation imparted to them by brushing them with a drawing/brushing tool and re-orientatable at will, said fibrous elements (3, 3') being such as to reflect the light with different light intensities or shades of colour (4, 5) depending on the angle of incidence of the light on their surfaces, that is to say depending on their orientation with respect to the base.
2. Device according to claim 1, characterized in that the surface of the fibrous elements (3, 3') are shaped in such a way as to give them a structure comprising a plurality of tiny prismatic reliefs, of ribs with a polygonal prismatic cross section, or the like, and in that they present different angles to the axes of the fibrous elements (3,3') themselves.
3. Device according to Claim 1, characterized in that the fibrous elements (3,3'), especially in the form of

fine, narrow strips, have at least two opposite faces with different colours or different gradations of the same colour or different opacities or lustres.

4. Device according to Claims 2 and 3, characterized in that the surfaces of the reliefs or ribs facing toward the free ends of the fibrous elements (3,3') are coloured with different colours or have different gradations of different colours or different opacities or lustres from those of the reliefs or ribs facing towards the bases thereof.
5. Device according to one or more of the preceding claims, characterized in that the fibrous elements are natural or synthetic fibres.
6. Device according to one or more of the preceding claims, characterized in that the fibrous elements (3,3') have a stiffness and an elasticity such that at the very least they lie flat against the base (2) in at least two directions.
7. Device according to any of the preceding claims, characterized in that the drawing/brushing tool is a spatula, brush, or comb or simply the hand or the fingers of the hand.
8. Device according to any of the preceding claims, characterized in that the writing medium (1) may be flat or curved in various ways.
9. Device according to any of the preceding claims, characterized in that the writing medium (1) is turf, especially that of sport field, the fibrous elements (3,3') being formed by the blades of grass and the lawnmower being used as the drawing/brushing tool.
10. Message formed with a display device according to any one of the preceding claims, characterized in that it comprises at least one symbol, and preferably a plurality of inter-related symbols of predetermined shape, the fibrous elements (3') in the area (4) of the surface corresponding to the symbol(s) being inclined the same way as each other and differently from the fibrous elements (3) in area (5) surrounding the symbol(s), in such a way that light reflected by said two areas (4,5) has different intensities or different gradations of colour, or different colours.
11. Message according to Claim 10, characterized in that the fibrous elements (3,3') are blades of grass whose inclinations are uniform within each area (4,5), but different between the two areas (4,5).

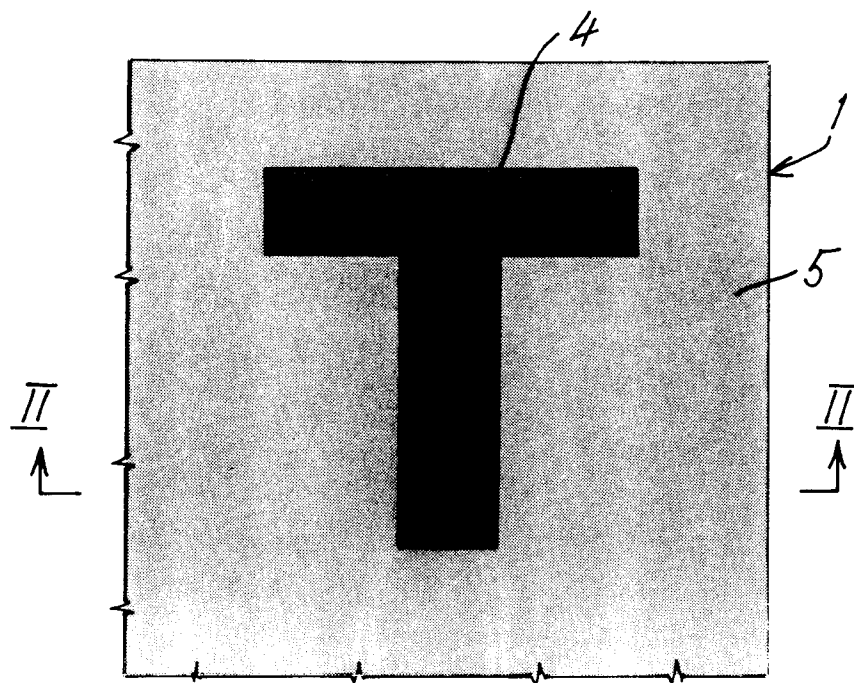


Fig. 1

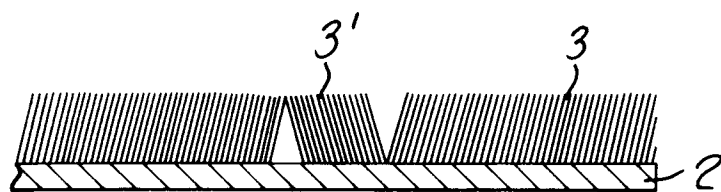


Fig. 2



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

DOCUMENTS CONSIDERED TO BE RELEVANT			EP 95117829.2
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 6)
A	<u>CH - A - 577 735</u> (WÄLTER-GRIMM) * Fig. 1-8; column 1, line 62 - column 2, line 3; column 2, line 54 - column 4, line 17; claim 1 * --	1-11	G 09 F 19/22
A	<u>DE - A - 2 506 056</u> (MITSCHKE) * Fig. 1-3; page 2, paragraphs 3,4; page 6, paragraph 3 - page 8, paragraph 3; claims 1-3 * --	1-11	
A	<u>CH - A - 969 757</u> (KROIS) * Fig. 1,2; page 2, line 13 - page 5, line 14; claim 1 * --	1-11	
A	<u>WO - A - 89/08 302</u> (TLC VENTURES) * Abstract; page 5, line 29 - page 7, line 36; claims 1,2,6-13,24 * --	1-11	TECHNICAL FIELDS SEARCHED (Int. Cl. 6) G 09 F 19/00 G 09 F 7/00 G 09 F 9/00 G 09 B 1/00 G 09 B 11/00 G 09 B 21/00 G 09 B 25/00
A	PATENT ABSTRACTS OF JAPAN, unexamined applications, P section, vol. 14, no. 409, September 5, 1990 THE PATENT OFFICE JAPANESE GOVERNMENT page 44 P 1101; & JP-A-02 157 893 (NEC) * Fig; abstract * --	1-11	
A	<u>FR - A - 2 647 244</u> (FRIEDRICH) * Fig; abstract; page 1, line 19 - page 2, line 21; claims 1-4 * -----	1-11	
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 27-12-1995	Examiner WENNINGER
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

EPO FORM 1503 01.82 (P0401)