

(12)

Europäisches Patentamt European Patent Office Office européen des brevets



(11) **EP 1 591 985 A3**

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: **16.08.2006 Bulletin 2006/33**

(51) Int Cl.: **G09F 13/20** (2006.01)

G09F 9/37 (2006.01)

(43) Date of publication A2: 02.11.2005 Bulletin 2005/44

(21) Application number: 05007969.8

(22) Date of filing: 12.04.2005

(84) Designated Contracting States:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR Designated Extension States:

AL BA HR LV MK YU

(30) Priority: 28.04.2004 SI 200400129

(71) Applicant: Iskra Mehanizmi, Industrija mehanizmov, aparatov in sistemov d.d. 4245 Kropa (SI) (72) Inventors:

- Bavec, Milan
 4000 Kranj (SI)
- Justin, Franc 4245 Kropa (SI)
- Ropret, Janez 4240 Radovljica (SI)
- Pirs, Janez
 1000 Ljubljana (SI)
- (74) Representative: Gagel, Roland Patentanwalt Dr. Roland Gagel, Landsberger Strasse 480a 81241 München (DE)

(54) Electromagnetic display panel

(57)A novel construction, of an electromagnetic display, which allows for the significant reduction of the fabrication costs is described. The construction is adapted to a batch processing of the electromagnetic display panel pixels (P), which can optionally use novel electromagnetic driving as well as illumination concept. According to the described construction concept the display pixels (P) are integrated into smaller functional groups - segments, within which all static parts of the display pixels are joined in a monolithic block (1), which can be massproduced in an automatic process. Due to the monolithic design the number of constituent parts is reduced to minimum and the mechanical tolerances can be kept tighter. This in turn allows the other operations like solenoid (5) winding, pixel flaps (2) insertion, contacting/mounting pins (4a + 4b) injection, etc to be performed simultaneously for all pixel elements joint in the said basic display segment. The described display panel design also applies a novel concept of display pixel illumination in low ambient light conditions based on the use of UV light luminescent paints replacing the discrete pixel illumination by light sources associated with each display pixel (for example: LED,...) as well as novel electromagnetic display pixel driving, reducing the crosstalk between neighboring display pixels based on the use of plastomagnets built-in in the display flaps during the injection molding production process.

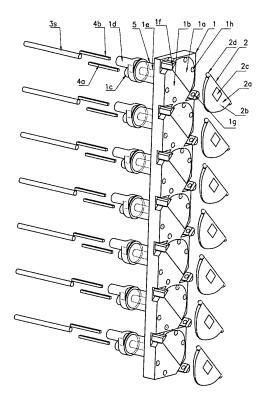


Fig. 1. a



EUROPEAN SEARCH REPORT

Application Number EP 05 00 7969

	DOCUMENTS CONSIDERE Citation of document with indication		Relevant	OL ACCIFICATION OF THE
Category	of relevant passages	on, where appropriate,	to claim	CLASSIFICATION OF THE APPLICATION (IPC)
D,A	US 5 771 616 A (TIJANIO 30 June 1998 (1998-06-3 * abstract; claims; fig	30)	1-13	INV. G09F13/20 G09F9/37
D,A	US 6 603 458 B1 (FISCHI 5 August 2003 (2003-08- * abstract; claims; fig 	-05)	1-13	
				TECHNICAL FIELDS SEARCHED (IPC)
	The present search report has been d	rawn up for all claims		
	Place of search	Date of completion of the search	1	Examiner
	The Hague	6 July 2006	Ga1	1o, G
X : part Y : part docu A : tech	ATEGORY OF CITED DOCUMENTS ioularly relevant if taken alone ioularly relevant if combined with another ument of the same category inological background	T : theory or princip E : earlier patent de after the filing da D : document cited L : document cited	le underlying the incument, but publis te in the application for other reasons	nvention shed on, or
O : non	-written disclosure rmediate document	& : member of the s		

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 05 00 7969

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

06-07-2006

cite	Patent document cited in search report		Publication date	Patent family member(s)		Publicati date
US	5771616	Α	30-06-1998	NONE		
US	6603458	B1	05-08-2003	NONE		
			icial Journal of the Eurc			