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(71) Applicants and

(72) Inventors: **MARTINS, Mário Luiz Gomes** [BR/BR]; St.Tuiuti, 175, Vergueiros Sorocaba, CEP-18.035-340 São Paulo (BR). **SILVA, Jair Marques da** [BR/BR]; St.Tuiuti, 175, Vergueiros Sorocaba, CEP-18.035-340 São Paulo (BR).

(74) Agent: **GONCALVES, Julio**; St.Marechal Deodoro, 51 cj909-B, Centro Curitiba Paraná, CEP-80.020-905 (BR).

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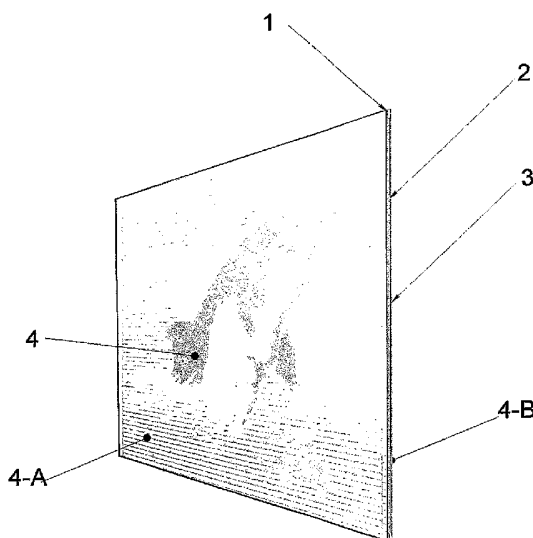
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROCESS FOR OBTAINMENT AND SIMULTANEOUS VISUALIZATION OF IMAGES ON BOTH SIDES OF A PROJECTION SCREEN AND MANUFACTURE THEREOF



(57) Abstract: "Process for obtainment and simultaneous visualization of images on both sides of a projection screen and resultant product" is characterized by being a process that matches, through specific linkage, a kind of vinyl film or pellicle (3), with optical adhesive (2), applied on glass, acrylic or Lexan (1), reflecting on a projection screen (4) that allows the visualization of images, coming from several equipments like: TV, HDTV, DVD, Videos, Slides, Computer data or any other electronic equipment of image projection. The image is projected on one of the surfaces of the screen projection (4), but its visualization is possible on both sides of the screen, thus, the user will have a conventional view of the frontal surface; however the user will have an additional uncommon rear side view of the screen.

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Process for obtainment and simultaneous visualization of images on both sides of a projection screen and manufacture thereof

Description of the invention

Therefore, the goal of the herewith patent of invention is to supply the public, through specific assembly process, a gadget to receive image projection, that is: a projection screen that allows the configuration of a view at an 360 angles, overcoming all the inconveniences and limitations of screens known nowadays and available in the market, being inclusively certain new projection screens being used at any environment, commercials or residentials, availabling the projected images on both opposite sides of the referred screen, using as projector equipment any conventional equipment of image projection, as projector, datashow, big screen or the retro projector.

For better understanding of herewith **“PROCESS FOR OBTAINMENT AND SIMULTANEOUS VISUALIZATION OF IMAGES ON BOTH PARTS OF A DESIGN FILM AND RESULTANT PRODUCT”**, is made now a detailed description from the same, making reference to drawings attached, where the:

PICTURE 1, represents a perspective screen view projection, standing out the parts that consist the assembly process, in a specific sequence;

PICTURE 2, represents in a blown up way, the three parts of the projection screen;

PICTURE 3, figures another view as how the projected image will be available simultaneously on both sides of the projection screen;

PICTURE 4, figures a view, representing how the users will have access to the 360 angles field of view.

According to these illustrations and their circumstances, specifically the pictures 1 and 2, the **“PROCESS FOR OBTAINMENT AND SIMULTANEOUS VISUALIZATION OF IMAGES ON BOTH PARTS OF A DESIGN FILM AND RESULTANT PRODUCT”** is consisted of a board of glass, acrylic or *Lexan* (1), self adhesive, duo part or optic adhesive (2) and a vinyl film or pellicle (3), properly adhered to themselves in an specific order, forming the projection screen (4), that allows the image on both sides, frontal

anterior (4-A) e posterior (4-B), obeying the following manufacturing process that consists of adhere first the self adhesive (2) on one of the vinyl film surfaces (3) through specific equipment and followed by gluing the specific vinyl film (3) already properly plastered to the self adhesive (2) on the board of glass, acrylic or *Lexan* (1), using specific machine for such gluing operation or through manual
5 execution, using plastic spatula and water being that, for the last process, the period for drying is from 10 to 30 days, depending on air humidity.

Picture 3 approach, shows how the projected image on screen (4) is perfectly available simultaneously on both sides: frontal (4-A) and posterior (4-B)
10); this picture, we have the evidence that the image projected on the surface (4-B) is inverted, however, with the fidelity on the quality of the projected image and making use of available resources in the retro projector equipments, which allow the automatic inversion of eventual subtitles, the user will not have any loss, for the inversion is practically unnoticed.

15 In picture 4, enhances still the facility and easiness that the users of this equipment will have when make a good use of it, emphasizing the uncommon possibility of being access to a unique gadget, with quality, projected images on both surfaces of the screen (4), allowing a perfect view at any angle, for it is possible its visualization until 360 angles.

20 The focus of the projector equipment, data show, big screen or retro projector, is not seen at any of screen surfaces (4), however the referred projection of image must always be made on the face (4-B), that is on the vinyl film (3) of which was adhered the self adhesive (2).

Considering all the characteristics of this **“PROCESS FOR
25 OBTAINMENT AND SIMULTANEOUS VISUALIZATION OF IMAGES ON BOTH PARTS OF A DESIGN FILM AND RESULTANT PRODUCT”**, notices that the resultant product, that is, the screen (4) could be used at any environment, professional, commercial or residential, increasing considerably the aesthetic point of the referred environment, the screen being able (4) to be
30 adapted to the own environment construction, sharing it, or being fixed through the

specific gadgets on the ceiling, in the mezzanine, about eventual boards and even on the wall, in this case, the projected image will be available only at one side, being put a dark background on the other surface, that shows the referred equipment the similar qualities of a plasm screen, due to its thin thickness.

5 The dimensions of the screen (4) resultant product of this patent of invention can vary according to the size of the films or pellicles available in the market nowadays, following the eventual variations that market shows.

 Optionally, the users will be able to use this projection screen, object of this patent of invention, replacing the retro projection TVS screens, whose quality of
10 image is known very low, using from the same TV equipment.

 When the use needs to handle information available on the screen, for example: the operation of any computer program which needs mouse, optionally and also the screen of projection object of this patent of invention will be available with the gadget "*touch screen*", which is a way of interaction with the equipment,
15 allowing the users to control or handle through screen touches.

CLAIMS

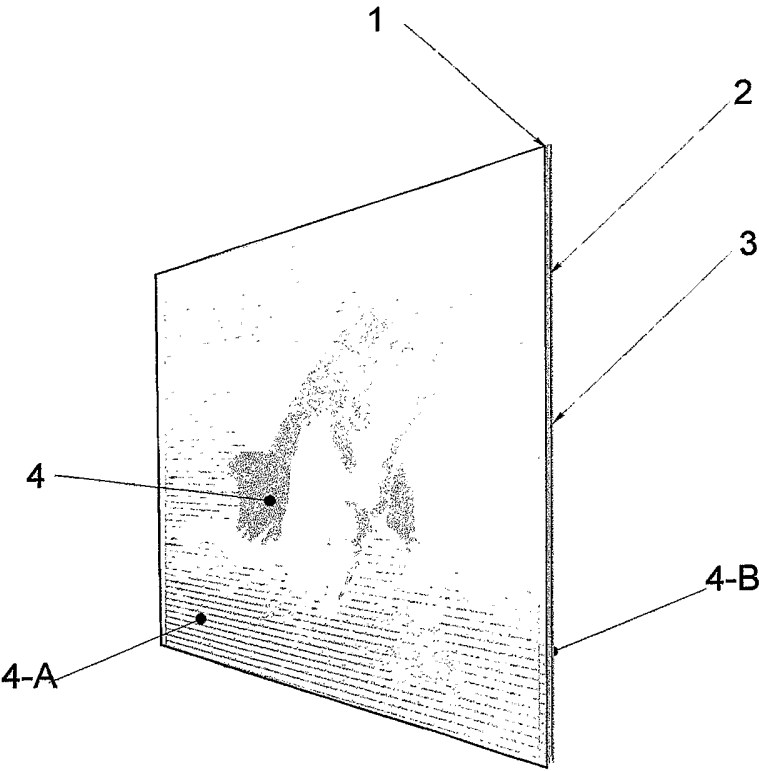
1 **“PROCESS FOR OBTAINMENT AND SIMULTANEOUS
VISUALIZATION OF IMAGES ON BOTH PARTS OF A DESIGN FILM
AND RESULTANT PRODUCT”**, characterized by being consisted of a board

5 of glass, acrylic or *Lexan* (**1**), self adhesive, duo part or optic adhesive (**2**) and a
vinyl film or pellicle (**3**), properly adhered to themselves in an specific order,
forming the projection screen (**4**), that allows the image on both sides, frontal
anterior (**4-A**) and posterior (**4-B**), allowing an 360 angles view.

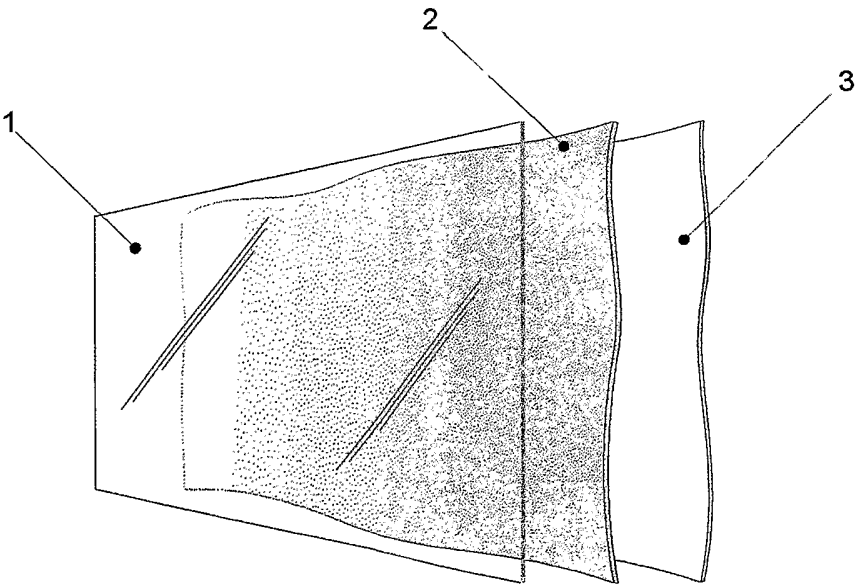
2 **“PROCESS FOR OBTAINMENT AND SIMULTANEOUS
10 VISUALIZATION OF IMAGES ON BOTH PARTS OF A DESIGN FILM
AND RESULTANT PRODUCT”**, according to the claim 1, characterized by
obeying the following manufacturing process that consist of adhere first the self
adhesive (**2**) on one of the vinyl film surfaces (**3**) through specific equipment
and followed by gluing the specific vinyl film (**3**) already properly plastered to
15 the self adhesive (**2**) on the board of glass, acrylic or *Lexan* (**1**);

3 **“PROCESS FOR OBTAINMENT AND SIMULTANEOUS
VISUALIZATION OF IMAGES ON BOTH PARTS OF A DESIGN FILM
AND RESULTANT PRODUCT”**, according to the claims 1 and 2,
characterized by allows the projected image, from any other electronic equipment
20 of image projection, on the screen (**4**) be available simultaneously in a perfect
way, on both surfaces: frontal (**4-A**) and posterior (**4-B**).

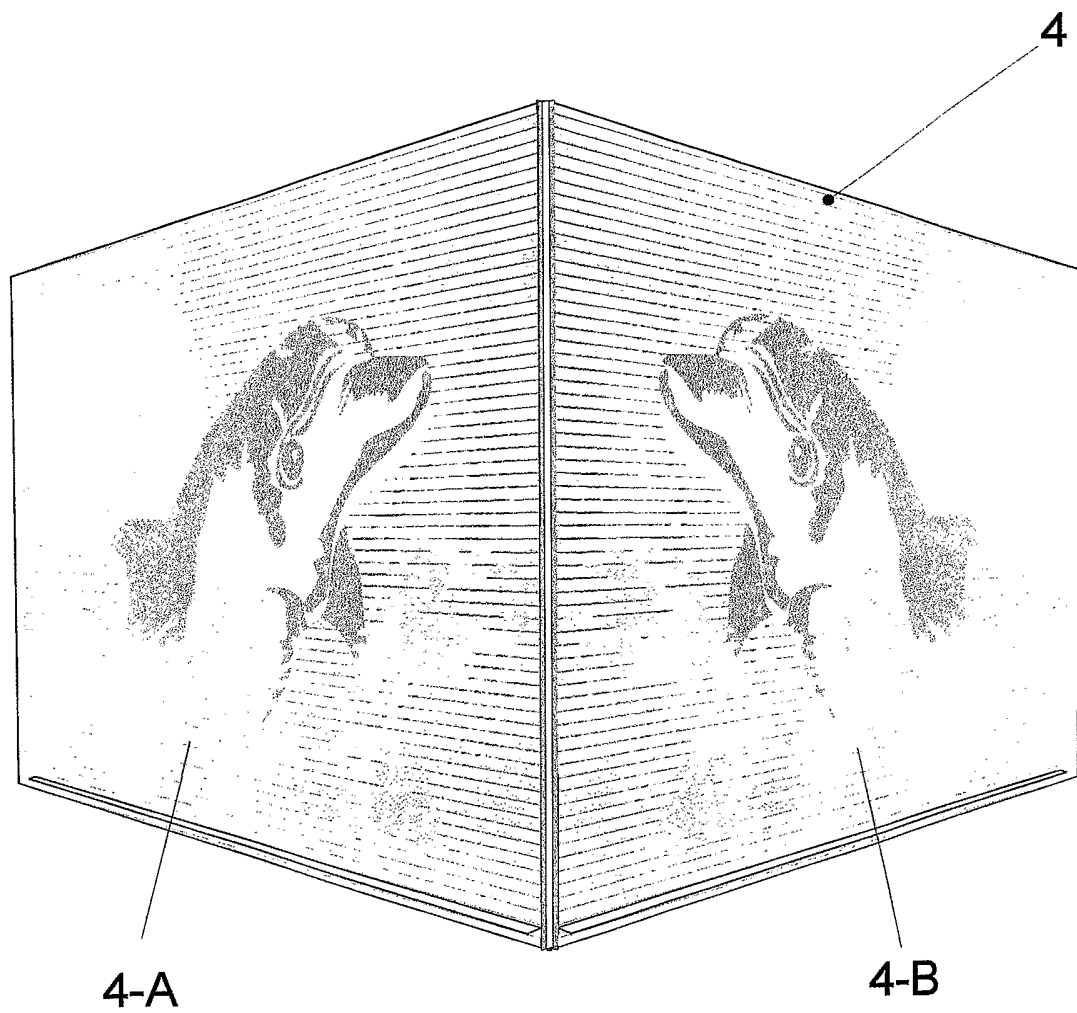
Picture 1



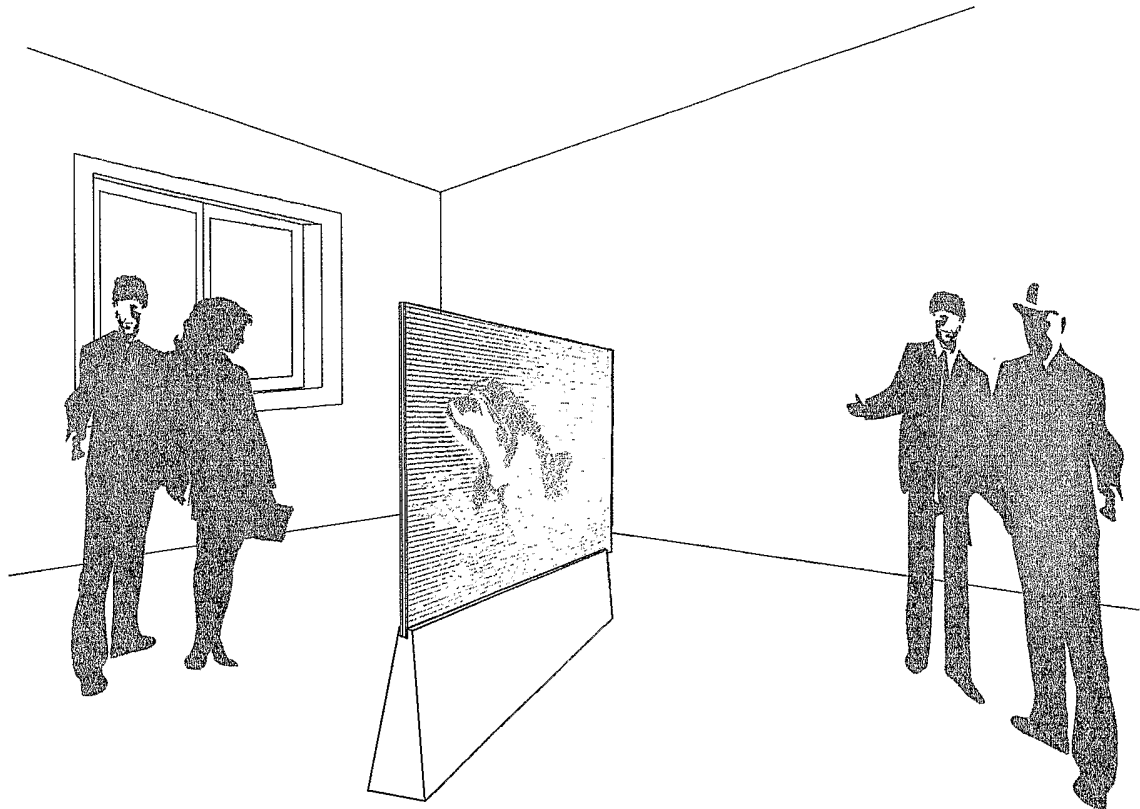
Picture 2



Picture 3



Picture 4



INTERNATIONAL SEARCH REPORT

International application No.
PCT/BR 2005/000043

A. CLASSIFICATION OF SUBJECT MATTER

IPC⁷: G03B 21/56, 21/62

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)

IPC⁷: G03B 21/56, 21/62Documentation 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 practicable, search terms used)
EPODOC, PAJ, WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR2002093728 A (O. G. JUNG) 16 December 2002 (16.12.2002) (abstract) [online] [retrieved on 03.11.2005] Retrieved from WPI Database <i>abstract.</i>	1
	--	
A	FR 2 657 701 A1 (C. SAKSIK) 2 August 1991 (02.08.1991) <i>abstract, claims, figure 1.</i>	1, 3
	--	
A	EP 0 478 187 A2 (THORN EMI plc) 1 April 1992 (01.04.1992) <i>abstract, claims, figures 1, 2.</i>	1, 3
	--	

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

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"P" document published prior to the international filing date but later than the priority date claimed

"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

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"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

"&" document member of the same patent family

Date of the actual completion of the international search
3 November 2005 (03.11.2005)Date of mailing of the international search report
17 November 2005 (17.11.2005)Name and mailing address of the ISA/ AT
Austrian Patent Office
Dresdner Straße 87, A-1200 ViennaAuthorized officer
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International application No.
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP2002139798 A (SILVER MAINTENANCE KK) 17 May 2002 (17.05.2002) (abstract) [online] [retrieved on 03.11.1005] Retrieved from EPODOC/WPI/PAJ Database <i>abstract.</i> --	1
A	JP5027695 A (EBARA CORP) 5 February 1993 (05.02.1993) (abstract) [online] [retrieved on 03.11.2005] Retrieved from EPODOC Database <i>abstract.</i> --	1
A	WO 2003/091802 A1 (A. NISHIDA) 6 November 2003 (06.11.2003) <i>abstract, figures 1, 2.</i> ----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/BR 2005/000043

Patent document cited in search report			Publication date	Patent family member(s)			Publication date
EP	A	478187		JP	A	4365027	1992-12-17
				EP	A2	0478187	1992-04-01
FR	A1	2657701	1991-08-02	none			
JP	A	2002139798A2		none			
JP	A	5027695A2		none			
KR	A	2002093728	2002-12-16	none			
WO	A	2003091802		none			