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(54) **WEFT-KNITTED FABRIC WITH CUT-LOOP PILES**

(57) A weft-knitted fabric (20) with cut-loop piles (22) comprises a plurality of basic yarn rings (21) and a plurality of cut-loop piles (22). The plurality of basic yarn rings (21) are formed from at least one basic yarn (30), the plurality of cut-loop piles (22) are respectively connected to one of the plurality of basic yarn rings (21), each of the plurality of cut-loop piles (22) is formed by cutting a pile

loop (23) formed from one of at least two colored yarns (31, 32), each of the at least two colored yarns (31, 32) without forming the plurality of cut-loop piles (22) forms at least one of the plurality of basic yarn rings (21) together with the at least one basic yarn (30), and colors of the at least two colored yarns (31, 32) are different.

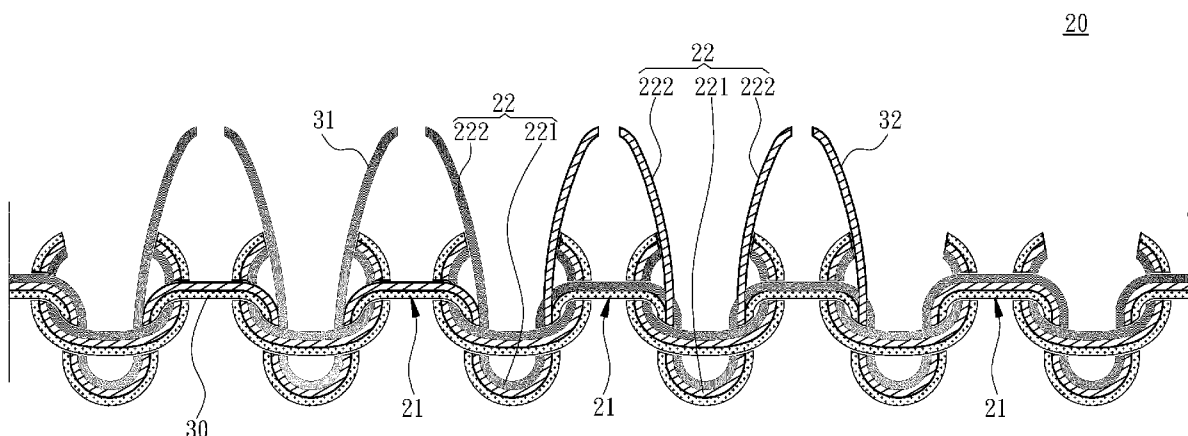


Fig. 1

Description

FIELD OF THE INVENTION

[0001] The invention relates to a weft-knitted fabric with cut-loop piles, and more particularly to a weft-knitted fabric with cut-loop piles formed from at least two colored yarns.

BACKGROUND OF THE INVENTION

[0002] CN116240663A discloses a weft-knitted fabric with cut-loop piles, in paragraph [0029] of the description: the knitting method of jacquard duplex cut-loop piles specifically refers to: on the basis of the rear duplex synchronous loop knitting method, the front duplex synchronous knitting method and the duplex split-step cut-loop pile knitting method, a pile yarn fed transversely adopts different colored yarns respectively, and the knife needles in one loop correspond to different colored yarns respectively, in order to obtain a single-colored block from jacquard cut-loop piles, it is necessary to have only one knife needle corresponding to one colored yarn in the knife needles arranged in loop (color-developing unit) to work to form piles, the pile yarn that does not form piles will not be cut by the knife needle at a position of the knife needle and will only to form a floating thread. The floating thread is covered by the formed colored piles and is inside the colored piles, thereby obtaining a single colored area. In this way, it is necessary to have the knife needles arranged in loop to work optionally. During knitting, a weft knitting needle selecting mechanism can be used. When making small patterns, a mechanical needle selecting mechanism can be used. When making large patterns, an electronic needle selecting mechanism can be used. The needle selecting mechanism generally adopts two stations. When knitting with the needle selecting mechanism, the knife needle adopts a single needle, the pressing action of the knife needle is caused by the action of the needle pressing triangle of the knife needle on the needle, and the needle pushing action of the knife needle is completed by the needle selection mechanism. In this way, a color can be specified for each color developing unit according to requirements, which can be a single color or mixed colors, thereby obtaining multi-colored jacquard cut-loop piles with various patterns.

[0003] Although the above-mentioned patent provides a technical solution for achieving multi-colors, it does not provide a technical solution for achieving piles on the fabric partially under a condition of multi-colored cut-loop piles.

SUMMARY OF THE INVENTION

[0004] A main object of the invention is to solve the problem that conventional fabric structures limit a variability of single-sided pile fabrics.

[0005] In order to achieve the above object, the invention provides a weft-knitted fabric with cut-loop piles comprising a plurality of basic yarn rings and a plurality of cut-loop piles. The plurality of basic yarn rings are formed from at least one basic yarn, the plurality of cut-loop piles are respectively connected to one of the plurality of basic yarn rings, each of the plurality of cut-loop piles is formed by cutting a pile loop formed from one of at least two colored yarns, each of the at least two colored yarns without forming the plurality of cut-loop piles forms at least one of the plurality of basic yarn rings together with the at least one basic yarn, and colors of the at least two colored yarns are different.

[0006] In one embodiment, the weft-knitted fabric comprises a plurality of courses, and positions of the plurality of cut-loop piles in the plurality of courses are not fixed.

[0007] In one embodiment, a number of the plurality of cut-loop piles in each of the plurality of courses is not fixed.

[0008] In one embodiment, each of the cut-loop piles comprises a pile base connected to at least one of the plurality of basic yarn rings, and at least one cut pile connected to the pile base respectively.

[0009] Through the foregoing implementation of the invention, compared with the prior art, the invention has the following characteristics: each of the cut-loop piles of the invention is formed by cutting a loop pile formed from one of at least two colored yarns, and each of the at least two colored yarns forms at least one of the basic yarn rings together with the at least one basic yarn before being used to form the cut-loop piles. Thereby, knitting effects of having piles or without piles and pile color conversion can be achieved to greatly increase a variability of single-sided pile fabrics.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010]

FIG. 1 is a schematic diagram of a structure of a weft-knitted fabric of the invention.

FIG. 2 is a schematic diagram of a structure of the weft-knitted fabric of the invention before cut-loop piles are formed.

FIG. 3 is a first schematic diagram of a planar structure of the weft-knitted fabric of the invention.

FIG. 4 is a second schematic diagram of a planar structure of the weft-knitted fabric of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0011] The detailed description and technical content of the invention are described below with reference to the accompanying drawings.

[0012] Please refer to FIG. 1. The invention provides a weft-knitted fabric 20. The weft-knitted fabric 20 is woven by a circular knitting machine. The weft-knitted fabric 20

is characterized in that: a structure of the weft-knitted fabric 20 described hereinafter is completed on the circular knitting machine during a weaving process, thereby eliminating procedures of partial dyeing and shearing. The weft-knitted fabric 20 comprises a plurality of basic yarn rings 21 and a plurality of cut-loop piles 22. The plurality of basic yarn rings 21 are formed from at least one basic yarn 30. The plurality of cut-loop piles 22 are respectively connected to one of the plurality of basic yarn rings 21, each of the plurality of cut-loop piles 22 is formed from one of at least two colored yarns 31, 32. More specifically, each of the plurality of cut-loop piles 22 is formed by cutting a pile loop 23 formed from one of the at least two colored yarns 31, 32, as shown in FIG. 2, and 40 marked in FIG. 2 is a cutting position of the pile loop 23. Further, each of the plurality of cut-loop piles 22 comprises a pile base 221 connected to at least one of the basic yarn rings 21, and at least one cut pile 222 connected to the pile base 221. Furthermore, each of the at least two colored yarns 31, 32 without forming the plurality of cut-loop piles 22 forms at least one of the plurality of basic yarn rings 21 together with the at least one basic yarn 30; that is to say, each of the plurality of cut-loop piles 22 is only formed from one of the at least two colored yarns 31, 32, and the other colored yarn 31 or 32 without forming the plurality of cut-loop piles 22 is woven together with the at least one basic yarn 30, as shown in FIG. 1. A color of each of the plurality of cut-loop piles 22 is selected from one of the at least two colored yarns 31, 32 based on a pattern to be formed by the weft-knitted fabric 20. Furthermore, colors of the at least two colored yarns 31, 32 are different. Different colors refer to a difference in color codes. Similar colors also belong to different colors referred to in the invention.

[0013] Please refer to FIG. 3 as well. In one embodiment, the weft-knitted fabric 20 of the invention comprises a plurality of courses 24, and positions of the plurality of cut-loop piles 22 in the plurality of courses 24 are not fixed. Specifically, the positions of the plurality of cut-loop piles 22 in each of the plurality of courses 24 are different through weaving process settings on the circular knitting machine for knitting the weft-knitted fabric 20 so that the plurality of cut-loop piles 22 to form a pile pattern.

[0014] In addition, the plurality of cut-loop piles 22 are not limited to fully covering each of the plurality of courses 24 of the weft-knitted fabric 20 of the invention. Please refer to FIG. 4 as well, in one embodiment, a number of the plurality of cut-loop piles 22 in each of the plurality of courses 24 is not fixed. That is to say, a number of the plurality of cut-loop piles 22 included in one of the plurality of courses 24 can be different from a number of the plurality of cut-loop piles 22 included in the other one of the plurality of courses 24.

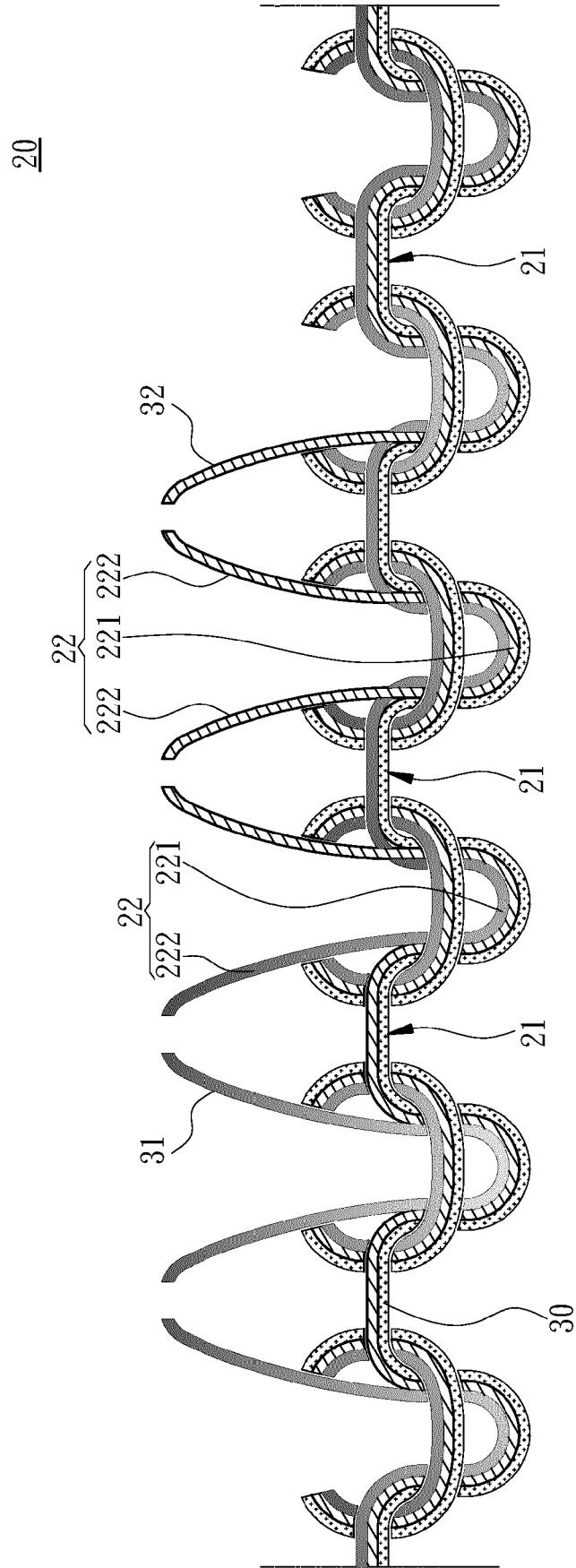
[0015] Furthermore, the weft-knitted fabric 20 of the invention is not limited to each of the plurality of courses 24 comprising the plurality of cut-loop piles 22, but there may be cases in which the plurality of basic yarn rings 21

are only included. In addition, the weft-knitted fabric 20 of the invention is not limited to the plurality of cut-loop piles 22 fully covering each of the plurality of courses 24, but there may be cases in which the plurality of basic yarn rings 21 are only included.

[0016] Summing up the above, the weft-knitted fabric 20 of the invention achieves knitting effects of having piles or without piles and pile color conversion to greatly increase a variability of single-sided pile fabrics through the aforementioned structure.

Claims

1. A weft-knitted fabric (20) with a plurality of cut-loop piles (22), comprising:
 - a plurality of basic yarn rings (21), formed from at least one basic yarn (30); and
 - the plurality of cut-loop piles (22), respectively connected to one of the plurality of basic yarn rings (21), each of the plurality of cut-loop piles (22) being formed by cutting a pile loop (23) formed from one of at least two colored yarns (31, 32), wherein each of the at least two colored yarns (31, 32) without forming the plurality of cut-loop piles (22) forms at least one of the plurality of basic yarn rings (21) together with the at least one basic yarn (30), and colors of the at least two colored yarns (31, 32) are different.
2. The weft-knitted fabric (20) with the plurality of cut-loop piles (22) as claimed in claim 1, wherein the weft-knitted fabric (20) comprises a plurality of courses (24), and positions of the plurality of cut-loop piles (22) in the plurality of courses (24) are not fixed.
3. The weft-knitted fabric (20) with the plurality of cut-loop piles (22) as claimed in claim 2, wherein the weft-knitted fabric (20) comprises a plurality of courses (24), and a number of the plurality of cut-loop piles (22) in each of the plurality of courses (24) is not fixed.
4. The weft-knitted fabric (20) with the plurality of cut-loop piles (22) as claimed in claim 1, wherein the weft-knitted fabric (20) comprises a plurality of courses (24), and a number of the plurality of cut-loop piles (22) in each of the plurality of courses (24) is not fixed.
5. The weft-knitted fabric (20) with the plurality of cut-loop piles (22) as claimed in any one of claims 1-4, wherein each of the plurality of cut-loop piles (22) comprises a pile base (221) connected to at least one of the plurality of basic yarn rings (21), and at least one cut pile connected to the pile base (221).



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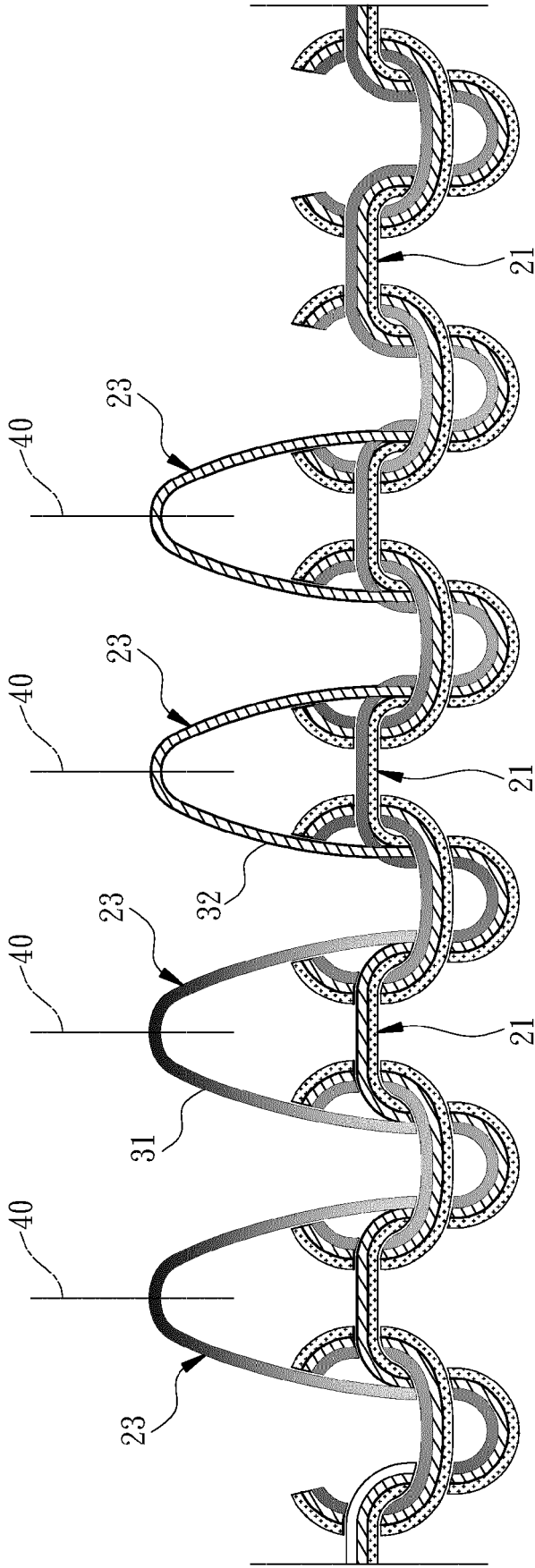


Fig. 2

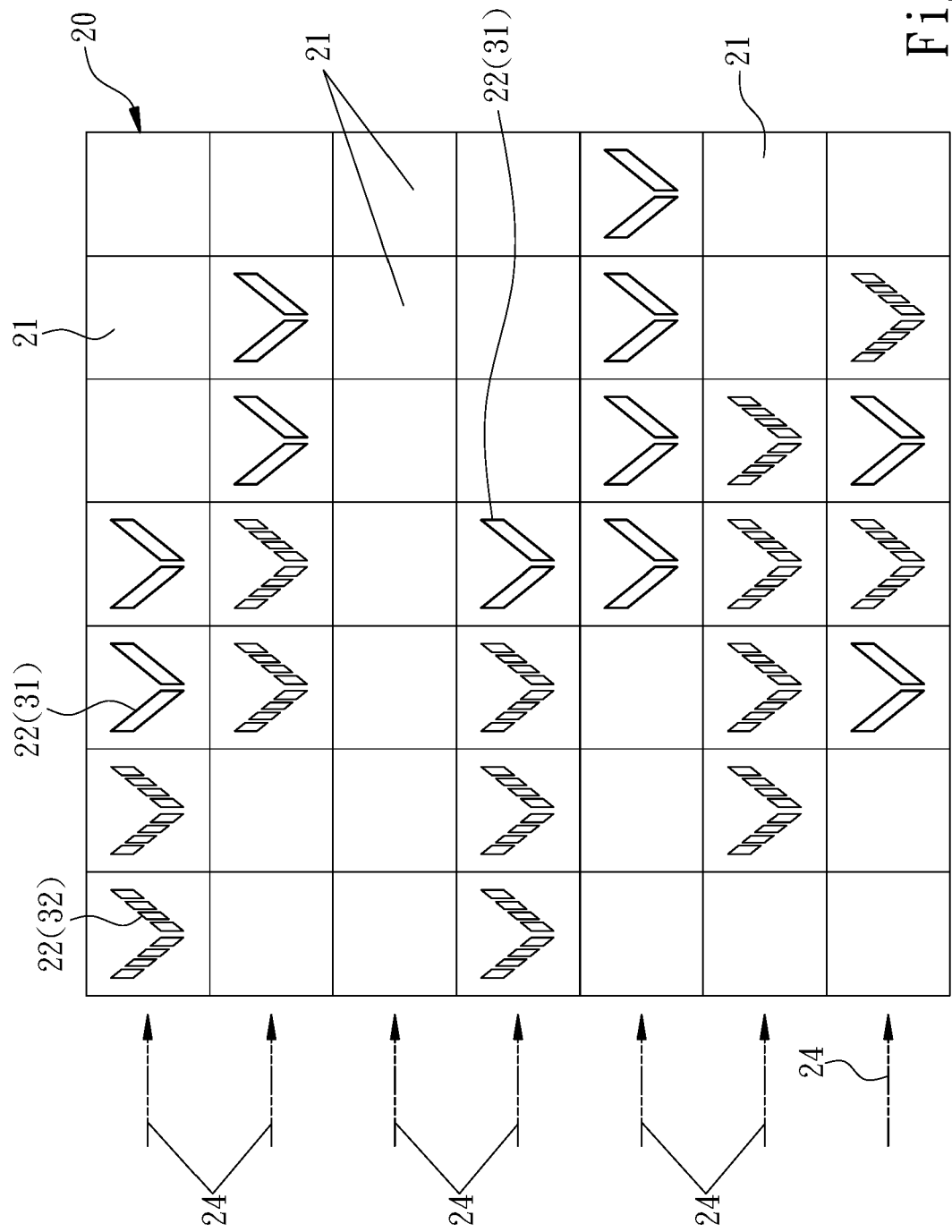


Fig. 3

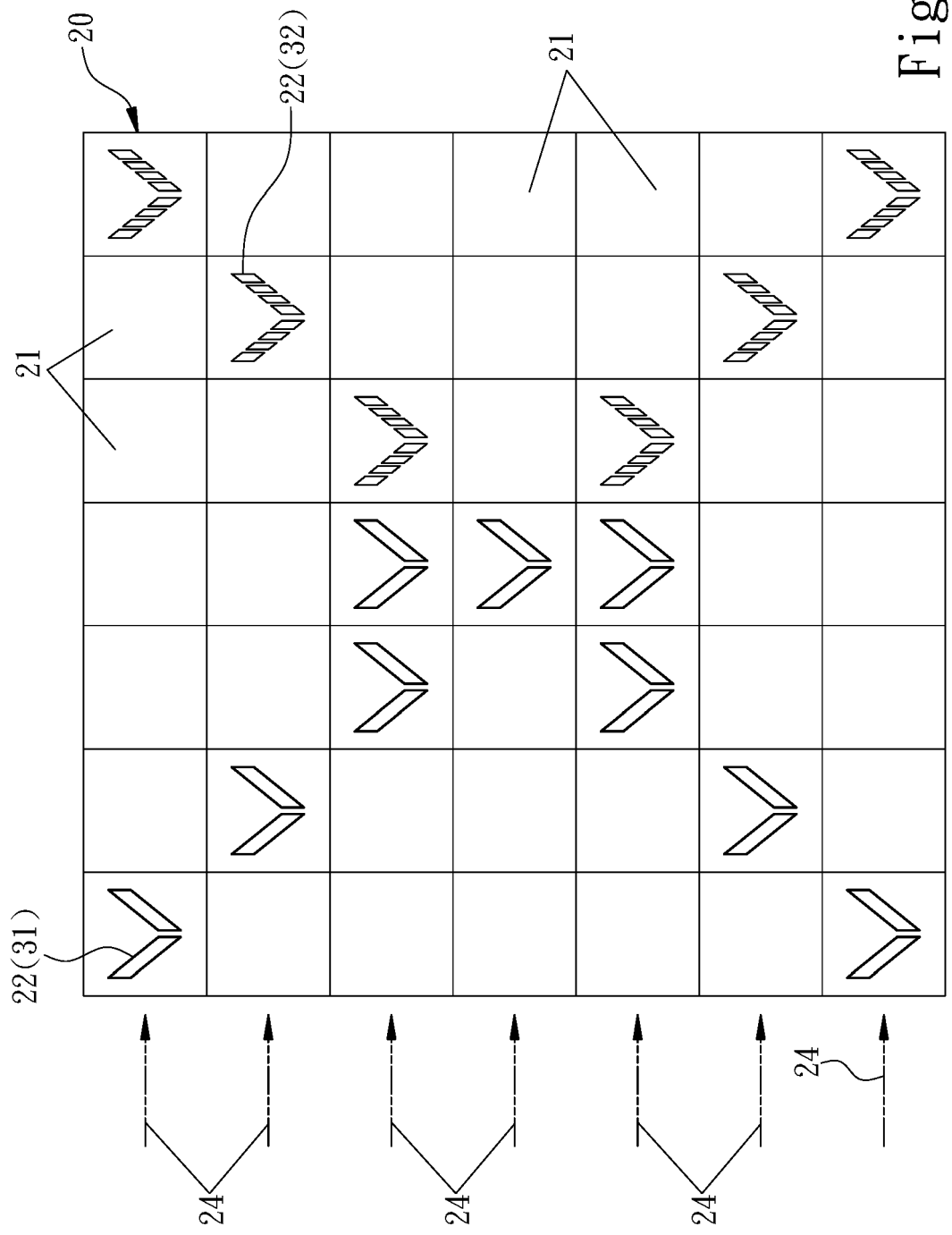


Fig. 4



EUROPEAN SEARCH REPORT

Application Number

EP 23 20 4183

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X	US 5 862 681 A (SCHMIDT WALTER R [AT]) 26 January 1999 (1999-01-26) * column 5, line 26 - column 6, line 11; figures 2-4 * * column 3, lines 28-39 *	1-5	INV. D04B1/02 D04B1/12 D04B9/12 D04B9/14 D04B9/28 D04B9/34
X	US 2003/150243 A1 (POT D OR MARK [DE]) 14 August 2003 (2003-08-14) * paragraphs [0001], [0002], [0008], [0023], [0024], [0039] - [0044] *	1-5	
A,D	CN 116 240 663 A (LEE BYUNG HYUN) 9 June 2023 (2023-06-09) * the whole document *	1-5	
A	JP H07 48765 A (TOYO BOSEKI) 21 February 1995 (1995-02-21) * paragraphs [0003], [0007]; figures 1,2 *	1-5	
			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		7 February 2024	Wendl, Helen
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EP 23 20 4183

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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