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(71) Applicant: **Patrizio, Bruno**
10051 Avigliana (IT)

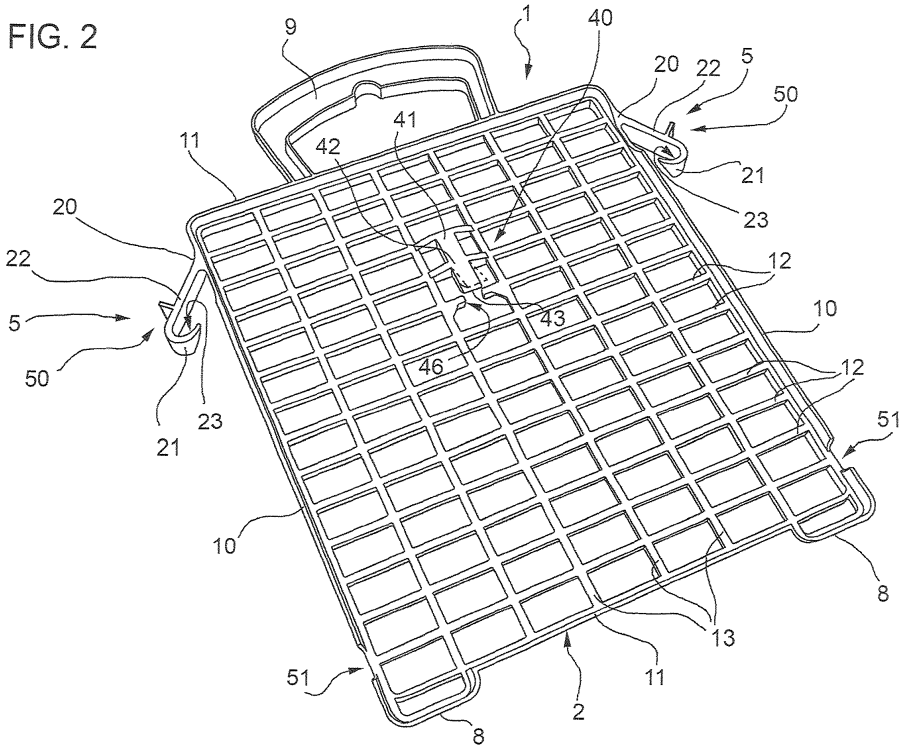
(72) Inventor: **Patrizio, Bruno**
10051 Avigliana (IT)

(74) Representative: **Jorio, Paolo et al**
STUDIO TORTA
Via Viotti 9
10121 Torino (IT)

(54) Grid for draining off the excess amount of a pourable product to be applied that is present on a decorating tool

(57) A grid (1) is described for draining off the excess amount of a pourable product to be applied that is present on a decorating tool, comprising: a frame (2) defining a surface (3) suitable to be housed, at least partially, inside a receptacle (4) fillable, at least partially, with the pourable product; the surface (3) being suitable to cooperate with the tool soaked in the pourable product to enable the excess amount to be drained off into the receptacle (4); and retaining means (5) suitable to releasably connect the grid (1) to the receptacle (4); the retaining means (5) and the frame (2) are mutually movable between a first configuration, in which they prevent the grid (1) from moving away from the receptacle (4) and hold the grid (1) in a fixed position with respect to the receptacle (4), and a second configuration, in which they allow the grid (1) to move away from the receptacle (4).

FIG. 2



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Description

[0001] The present invention relates to a grid for draining off the excess amount of a pourable product to be applied that is present on a decorating tool, in particular a roller or paintbrush.

[0002] The use of grids to remove the excess amount of a pourable product to be applied, for example paint, from a decorating tool is known in the field of decorating and painting.

[0003] More specifically, the grid comprises a surface that interacts with an operating portion of the tool soaked in paint and is arranged inside a receptacle containing said paint. In particular, the operating portion consists of a plurality of bristles in the case
in which the tool consists of a paintbrush or a tubular structure of porous material in the case in which the tool consists of a roller.

[0004] In use, the user dips the operating portion of the tool into the layer of paint in the receptacle, then passes said operating portion over the surface of the grid in order to press the operating portion against the surface and drain off the excess paint, which falls into the receptacle; the user then uses the operating portion of the tool to apply the paint to a surface to be decorated.

[0005] The grids of the known type are provided with a pair of L-shaped hooks suitable to fix said grids to an annular extremity of the receptacle.

[0006] More particularly, each hook comprises a first side that projects in a cantilevered manner from a respective lateral edge of the surface in a direction transversal to the respective edge, and a second side orthogonal to the first side and extending parallel to the respective edge towards a bottom of said receptacle.

[0007] The second sides of the hooks and the respective edges thus define a pair of respective seats, inside which respective sections of the annular extremity of the receptacle are fixed.

[0008] More precisely, each section of said annular edge rests against the first side of the relative hook in a direction parallel to an axis of the receptacle while it is radially interposed between the second side of the relative hook and the relative lateral edge of the surface.

[0009] In the sector the need is felt to prevent the user from raising the first sides of the hooks from the respective sections of the annular edge of the receptacle when wiping the operating portion of the tool over the surface of the grid, thus detaching the grid from the receptacle and, in some cases, causing said grid to fall out of said receptacle.

[0010] Said need is particularly felt in the case of very thick paint, which tends to stick to the surface of the grid.

[0011] When the grid becomes detached from the receptacle the hooks of the grid must be re-connected to the respective sections of the rim of the receptacle, clearly resulting in a loss of time for the user.

[0012] The need is also felt in the sector to prevent the possibility of the grid becoming detached from the receptacle and falling out of said receptacle when the level of paint in the receptacle is particularly low and near to the bottom of the receptacle and the user dips the operating portion of the tool in the paint generating a lifting action on said grid.

[0013] The object of the present invention is to produce a grid for draining off the excess amount of a pourable product that is present on a decorating tool that satisfies at least one of the above requirements in a simple and inexpensive manner.

[0014] Said objective is achieved by the present invention in that it relates to a grid for draining off the excess amount of a pourable product present on a decorating tool as defined by claim 1.

[0015] In order to better understand the present invention, a non-limiting preferred embodiment thereof will now be described by way of example with reference to the accompanying drawings, in which:

- figure 1 is a front perspective view of a drainage grid according to the present invention;
- figure 2 is a perspective view from the back of the grid of figure 1; - figure 3 is a perspective view on an enlarged scale of the grid of figures 1 and 2 in a configuration in which it is connected to a receptacle, which is only partially illustrated, of a pourable product to be applied;
- figure 4 is a perspective view on an enlarged scale from the side opposite that of figure 3, of the grid of figures 1 to 3 in the configuration of figure 3; and
- figure 5 is a greatly enlarged view of a detail of the grid of figures 1 to 4.

[0016] With reference to the accompanying drawings, number 1 indicates a grid for draining off the excess amount of a pourable product to be applied that is present on a decorating tool, for example a paintbrush or roller.

[0017] In greater detail, the grid 1 essentially comprises a frame 2 defining a surface 3 partially housable inside a receptacle 4 of paint to cooperate with an operating portion of the tool soaked in paint and drain said excess paint off into said receptacle 4, and a pair of hooks 5 suitable to releasably connect the grid 1 to the receptacle 4 so as to hold the surface 3 in a fixed position (figures 3 and 4) inside the receptacle 4, which is cylindrical in shape. In particular, in the case of the tool consisting of a paintbrush, the operating portion consists of a plurality of bristles while in the case of the tool consisting of a roller, the operating portion consists of a tubular element of porous material suitable to be soaked in paint.

[0018] More precisely, the hooks 5 hold the grid 1 in a substantially vertical position inside the receptacle 4 and parallel to an axis of said receptacle 4.

[0019] The frame 2 is delimited by first edges 10 parallel to one another and second edges 11 parallel to one another, orthogonal to the edges 10 and extending between said edges 10.

[0020] The frame 2 also comprises a plurality of cross-

members 12 (only some of which are indicated in figures 2 and 4) extending between the edges 10 and parallel to one another.

[0021] The frame 2 comprises, in addition to the cross-members 12, a plurality of cross-members 13 (only some of which are indicated in figures 2 and 4) extending between the edges 11, orthogonal to the cross-members 12 and parallel to one another.

[0022] The cross-members 12, 13 intersect one another so as to define a mesh in the grid 1.

[0023] First sides of the cross-members 12, 13 constitute the surface 3, which defines a first face of the frame 2 and is delimited laterally by the edges 10, 11.

[0024] The grid 1 also comprises a handle 9 projecting in a cantilevered manner from one of the edges 11 and that, in use, projects from the receptacle 4.

[0025] The handle 9 is grippable by the user and the grid 1 also comprises a pair of feet 8 projecting in a cantilevered manner from the other edge 11.

[0026] The receptacle 4 defines a cylindrical and open compartment for the paint and comprises a bottom (not illustrated) and a lateral surface 15. The lateral surface 15 comprises, more in particular, a free annular extremity 16 defining a flat rib 17 orthogonal to the axis of the receptacle 4 and extending externally with respect to the compartment defined by said receptacle 4.

[0027] The receptacle 4 is preferably made of plastic or tin plate.

[0028] The lateral surface 15 also comprises further flat, annular ribs, extending externally with respect to said compartment to facilitate gripping of said receptacle 4, and parallel to the rib 17.

[0029] Advantageously, the surface 3 and the hooks 5 are mutually shiftable between a first configuration (illustrated by the unbroken line in figures 3 and 4), in which the hooks 5 prevent the grid 1 from moving away from the receptacle 4 and hold said grid 1 in a fixed position inside said receptacle 4, and a second configuration (indicated by the dashed line in figures 3 and 4) in which the hooks 5 allow said grid 1 to be moved away from the receptacle 4.

[0030] In greater detail, the hooks 5 are integral with the frame 2 and each one extends in a cantilevered manner from a respective edge 10 of the grid 1 and from a relative lateral side, opposite the surface 3, of the relative edge 10.

[0031] The grid 1 is made of an elastically deformable material, in particular of polypropylene, so that the hooks 5 and the frame 2 can be elastically divaricated in relation to one another and are thus shiftable between the said first and second configurations.

[0032] More specifically, each hook 5 comprises a first extremity 20 contiguous to the relative edge 10; a second extremity 21, which is free and opposite the extremity 20, and is folded towards the edge 10, and a main intermediate section 22 between the two extremities 20, 21.

[0033] The section 22 of each hook 5 diverges, extending from the extremity 20 towards the extremity 21, away from the relative edge 10.

[0034] Each extremity 21 is hook-shaped and defines an open seat 23 destined to be engaged, when the hooks 5 and the frame 2 are in the first configuration, by a respective section of the rib 17.

[0035] In particular, the seats 23 are open on the side of the respective edges 10 and, when the hooks 5 and the frame 2 are in the first configuration, the sections of the rib 17 engage respective surfaces of the extremity 21 facing the respective edges 10.

[0036] Each hook 5 also comprises a tab 50 projecting in a cantilevered manner from the section 22 on the side opposite the edge 10. The tabs 50 can be gripped between the fingers by a user to divaricate the hooks 5 in relation to the respective edges 10.

[0037] Furthermore, the edges 10 have, on the part opposite the relative hooks 5, respective seats 51 open in the direction of the surface 3.

[0038] The shape of the seats 51 corresponds to that of the hooks 5 and they are suitable to allow the grids 1 to be stackable one on top of the other. More precisely the grids 1 are stacked by inserting the hooks 5 of a grid 1 arranged inferiorly into respective seats 51 of a grid 1 arranged superiorly. Once stacked, the handles 9 of the grids 1 are arranged on opposite sides.

[0039] More precisely, when the grids 1 are stacked, each seat 51 of a grid 1 is engaged by a relative hook 5 of the grid 1 on top of it.

[0040] When the grid 1 is fixed to the receptacle 4, an arched section of the receptacle 4 is facing a second face, opposite the surface 3, of the frame 2 (figures 4 and 5).

[0041] More in particular, when the hooks 5 and the frame 2 are in the first configuration, they are substantially undeformed.

[0042] In said first configuration, each hook 5 also clasps the respective section of the rib 17 between its extremity 21 and the relative edge 10. In this way, an action to move the grid 1 away from the receptacle 4 is prevented by the reaction of the sections of the ribs 17 on the extremities 21.

[0043] When the hooks 5 and the frame 2 are elastically divaricated to reach the second configuration, the sections of the rib 17 no longer cooperate with the extremities 21. In this way, the action to move the grid 1 away from the receptacle 4 is not prevented by the reaction of said sections of the rib 17.

[0044] The grid 1 is manufactured by means of a stamping process.

[0045] The method of operation of the grid 1 is now described starting from a condition in which the hooks 5 and the frame 2 are in the first configuration and are thus substantially undeformed.

[0046] More precisely, in said first configuration the seats 23 are engaged by respective sections of the rib 17 (figures 4 and 5).

[0047] In this situation, when the user presses with the tool against the surface 3 to drain the excess paint off

into the receptacle 4 thus exerting a force on the grid 1 in the opposite direction to the bottom of the receptacle 4, the sections of the rib 17 react against the respective extremities 21 so that the grid 1 is retained against the receptacle 4 and preventing its detachment from said receptacle 4.

[0048] The same happens when the level of the paint inside the receptacle 4 is very low and the user must therefore almost bring the tool into contact with the bottom of said receptacle 4 to dip it in the paint.

[0049] In this case, the movement of the tool produces an action on the grid 1 that would tend to move said grid 1 away from the receptacle 4 in the opposite direction to the bottom of the receptacle 4. Said action of detachment is effectively contrasted by the reaction of the sections of the rib 17 against the respective extremities 21 of the relative hooks 5.

[0050] When the user wishes to remove the grid 1 from the receptacle 4 he elastically divaricates the hooks 5 away from the edges 11 so that the seats 23 of the extremities 21 are no longer engaged by the relative sections of the rib 17. The user can then easily remove the grid 1 from the receptacle 4.

[0051] The advantages that can be achieved with the grid 1 according to the invention are apparent from an analysis of the characteristics thereof.

[0052] In particular, the hooks 5 provide a simple and inexpensive means for keeping the grid 1 fastened to the receptacle 4 so that, when arranged in the first configuration, they effectively contrast the forces that, in use, tend to move the grid 1 away from the receptacle 4 in the opposite direction to the bottom of said receptacle 4.

[0053] In this way, the pressure of the tool against the surface 3 and the action of dipping the tool in the paint do not cause the grid 1 to become detached from the receptacle 4 or cause the grid 1 to fall out of said receptacle 4.

[0054] Therefore, the grid 1 according to the invention prevents the user from having to interrupt his work following the detachment of the grid 1 from the receptacle 4.

[0055] Moreover, the grids 1 are easily stackable one on top of the other by coupling the hooks 5 to the respective seats 51.

[0056] Lastly, it is clear that modifications and variations may be made to the grid 1 without departing from the scope of the present invention.

[0057] In particular, the hooks 5 could be connected to the edges 10 by means of suitable connecting means instead of being integrally connected.

[0058] Moreover, the frame 2 could be rigid and only the hooks 5 could be elastically deformable or only the frame 2 could be elastically deformable and the hooks 5 could be rigid.

Claims

1. Grid (1) for draining off the excess amount of a pourable product to be applied that is present on a painting tool, comprising:

- a frame (2) defining a surface (3) suitable to be housed, at least partially, inside a receptacle (4) fillable, at least partially, with said pourable product; said surface (3) being suitable to cooperate with said tool soaked in said pourable product to enable said excess amount to be drained off into said receptacle (4); and
- retaining means (5) suitable to releasably connect said grid (1) to said receptacle (4);

characterized in that said retaining means (5) and said frame (2) are mutually shiftable between a first configuration, in which said retaining means (5) prevent said grid (1) from moving away from said receptacle (4) and hold said grid (1) in a fixed position with respect to said receptacle (4), and a second configuration, in which said retaining means (5) allow said grid (1) to be moved away from said receptacle (4).

2. Grid according to claim 1, **characterized in that** at least one of said retaining means (5) and said frame (2) is elastically deformable to move with respect to the other of said retaining means (5) and said frame (2) between said first and second configuration.

3. Grid according to claim 2, **characterized in that** said retaining means (5) comprise at least a hook (5) connected to said frame (2) and connectable to a portion (17) of said receptacle (4).
said hook (5) being suitable to block, when said retaining means (5) are in said first configuration, said portion (17) of said receptacle (4) against said frame (2) so as to prevent said grid (1) from moving away from said receptacle (4);
said hook (5) being disengageable, when said retaining means (5) and said frame (2) are in said second configuration, from said portion (17) of said receptacle (4) so as to allow said grid (1) to move away from said receptacle (4).

4. Grid according to claim 3, **characterized in that** said hook (5) extends in a cantilevered manner from an edge (10) of said frame (2) laterally delimiting said surface (3).

5. Grid according to claim 4, **characterized in that** said hook (5) comprises a first extremity (20) connected to said edge (10), a second extremity (21) connectable to said portion (17) of said receptacle (4), and an intermediate section (22) between said first and second extremities (20, 21) arranged so as to diverge from said frame (2) and extend from said first extremity (20) towards said second extremity (21); said second extremity (21) being folded towards said edge (10) so that said portion (17) of said receptacle

(4) is blocked between said edge (10) and said second extremity (21), when said retaining means (5) and said frame (2) are in said first configuration; said second extremity (21) of said hook (5) being arranged, when said retaining means (5) and said frame (2) are in said second configuration, at a distance from said edge (10) of said frame (2) such as to allow said grid (1) to be moved away from said receptacle (4).

6. Grid according to claim 5, **characterized in that** said second extremity (21) of said hook (5) defines an open seat (23) engageable by said portion (17) of said receptacle (4).

7. Grid according to any one of the claims from 3 to 6, **characterized in that** it comprises two said hooks (5) extending in a cantilevered manner from respective said opposite edges (10); said hooks (5), when said retaining means (5) and said frame (2) are in said first operating configuration, blocking respective mutually spaced portions of said receptacle (4) against the relative said edges (10) so that an arched section of said receptacle (4) delimited by said portions is facing said frame (2) on the side opposite said surface (3).

8. Grid according to any one of the previous claims, **characterized in that** said retaining means (5) are integral with said frame (2).

9. Grid according to any one of the claims from 5 to 8, **characterized in that** it comprises at least a tab (50) projecting in a cantilevered manner from said intermediate section (22) on the side opposite said extremity (20); said tab (50) being grippable between two fingers by a user to move said hook (5) away from said edge (10).

10. Grid according to any one of the claims from 4 to 9, **characterized in that** said edge (10) defines a seat (51) connectable to a further said hook (5) of a further said grid (1) so that said grids (1) are stackable one on top of the other.

11. Receptacle (4) for a pourable product to be applied comprising a grid (1) according to any one of the previous claims.

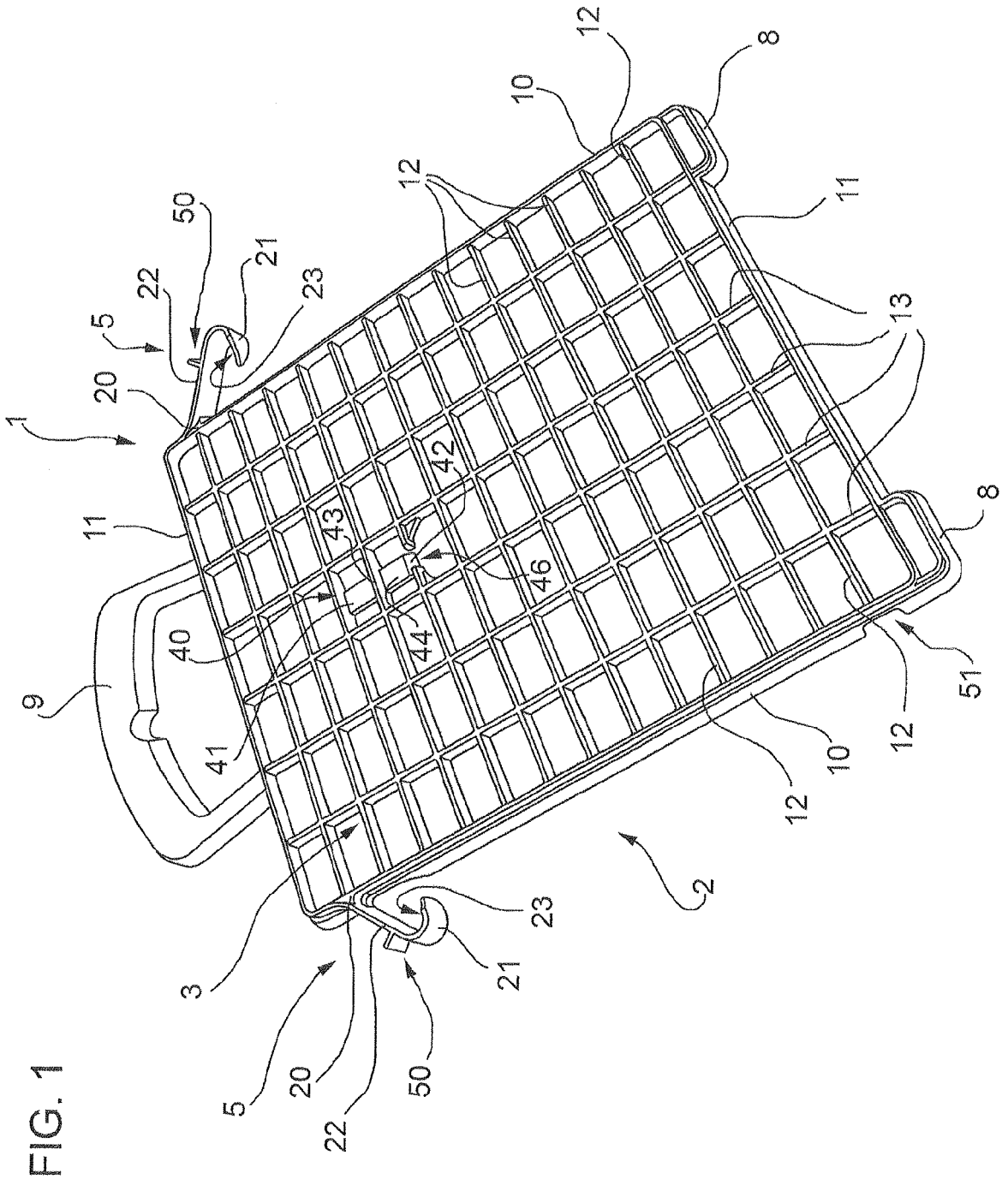

FIG. 1

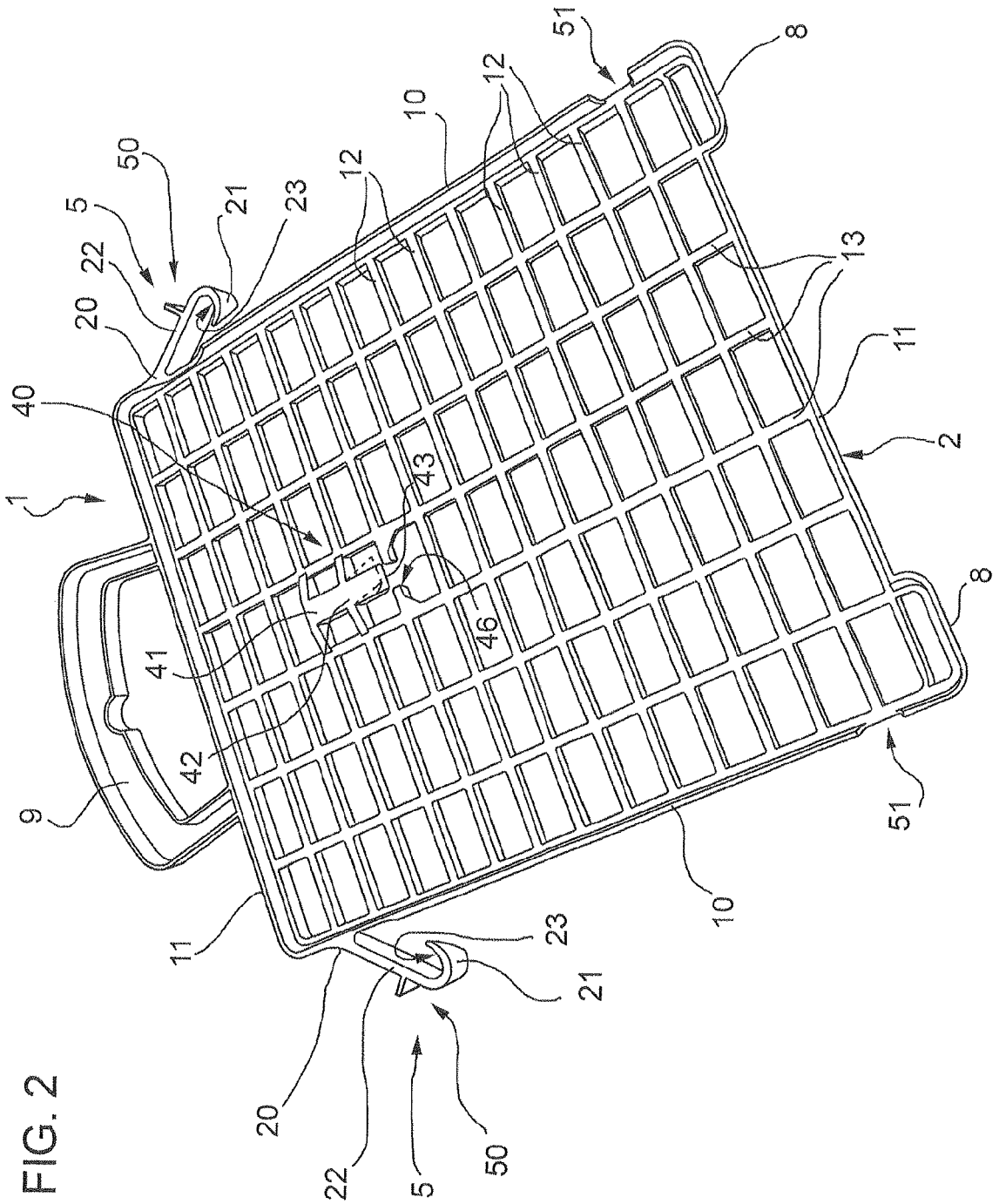
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FIG. 2

FIG. 3

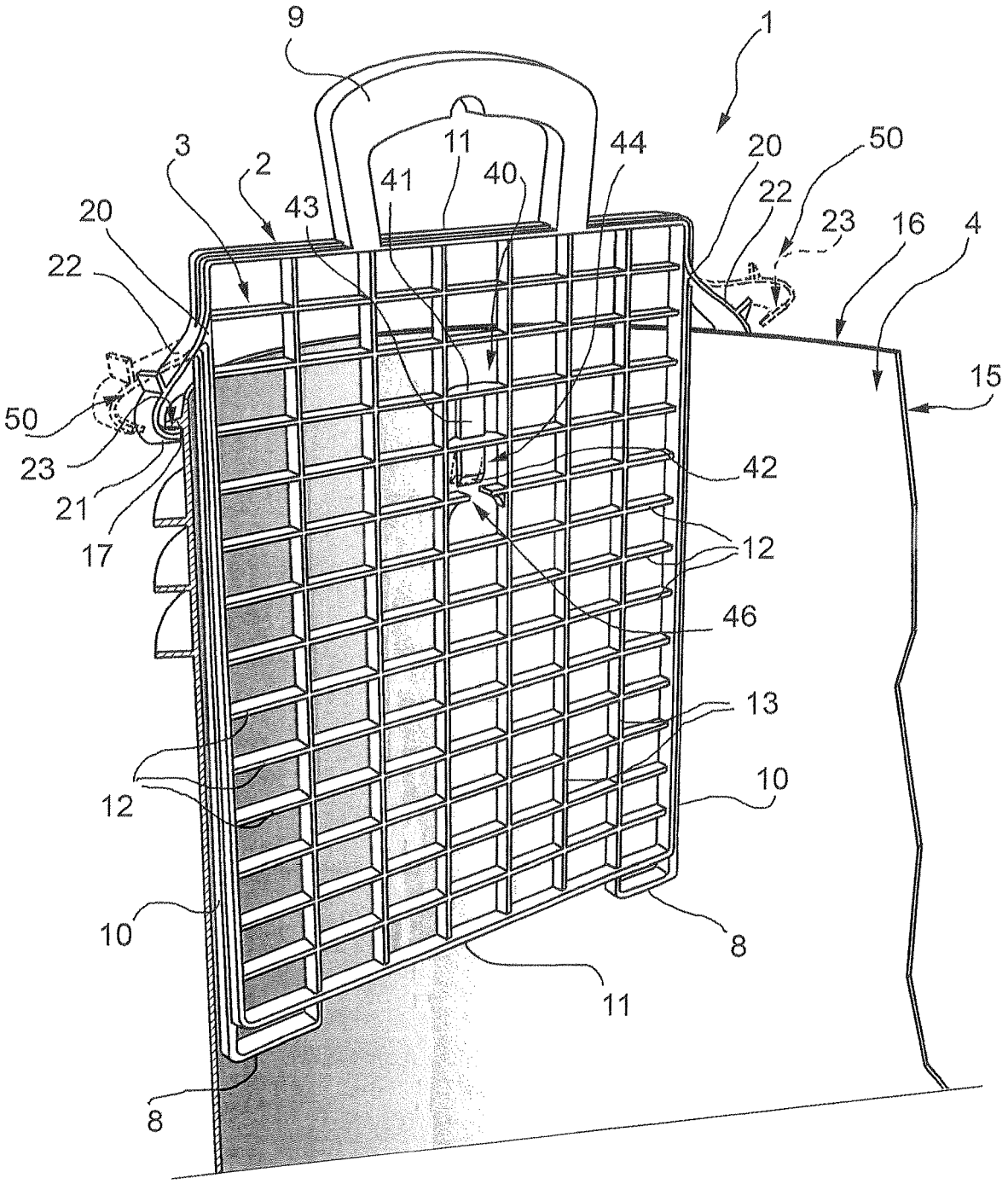
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FIG. 4

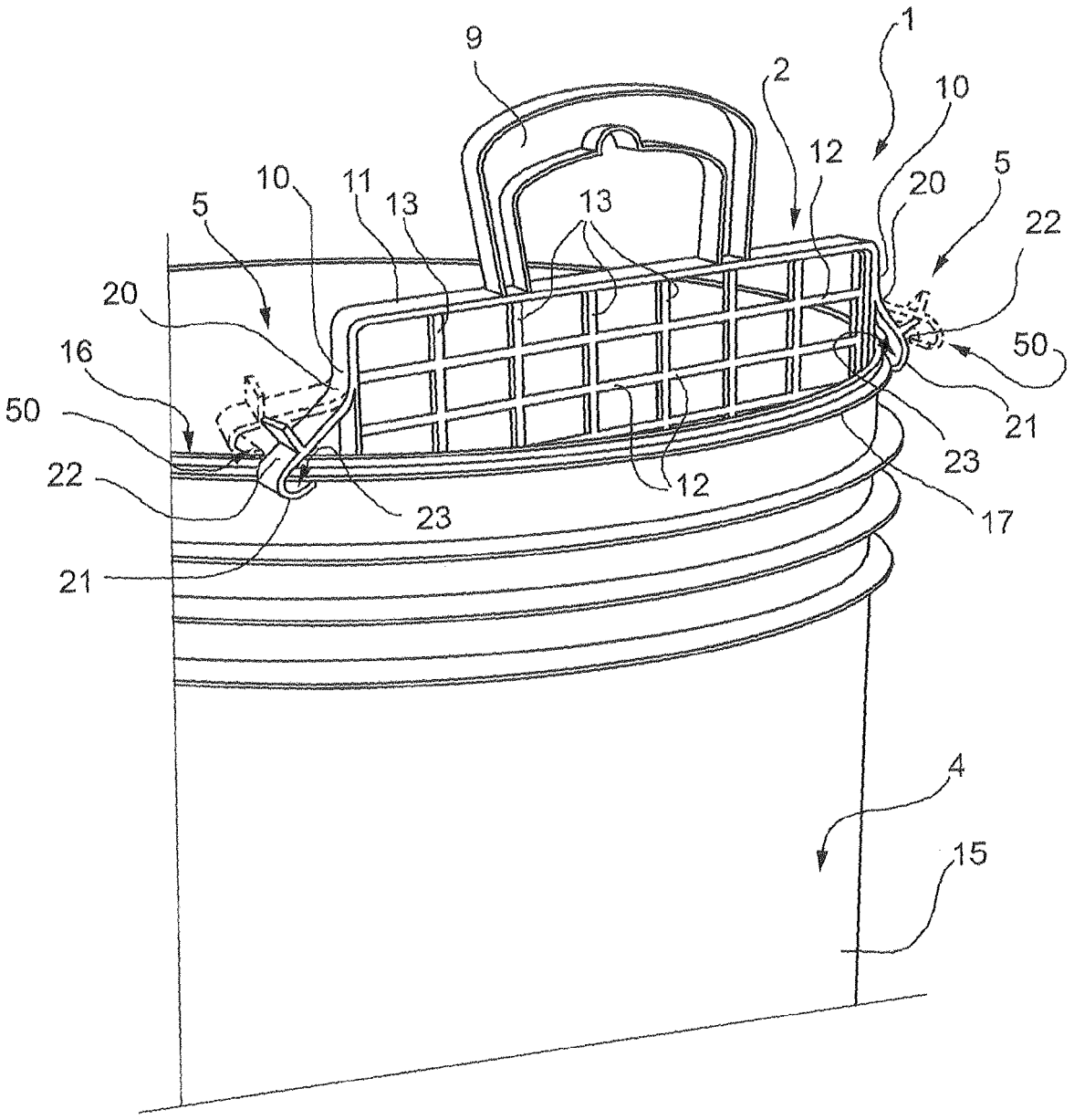
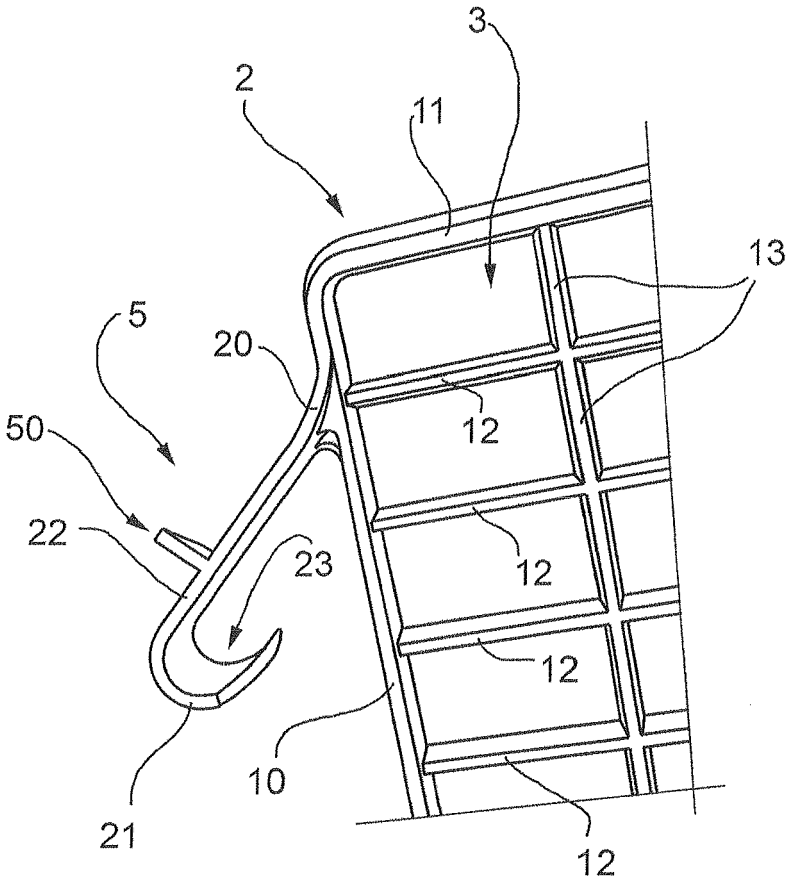


FIG. 5



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EUROPEAN SEARCH REPORT

Application Number
EP 08 16 1692

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X Y	US 2005/039294 A1 (MANN DAVID G [US]) 24 February 2005 (2005-02-24) * paragraphs [0030] - [0035]; figures 1-6 * -----	1-8,11 9	INV. B44D3/12
X	US 5 283 928 A (LINN RICHARD A [US] ET AL) 8 February 1994 (1994-02-08) * column 2, line 57 - column 3, line 46; figures 1-5 * -----	1-3,8,11	
Y	DE 198 11 661 A1 (PERLIN LEONID [DE]) 23 September 1999 (1999-09-23) * figure 3 * -----	9	
X A	DE 10 2005 039775 A1 (CIRET HOLDINGS AG [DE]) 8 June 2006 (2006-06-08) * paragraphs [0028] - [0035]; figures 2,3,9 * -----	1-3,8,11 10	
			TECHNICAL FIELDS SEARCHED (IPC) B44D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	28 November 2008	Ziegler, Hans-Jürgen

CATEGORY OF CITED DOCUMENTS

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28-11-2008

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