(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 522 480 A1**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **92111396.5**

(51) Int. Cl.5: **F21V 11/02**

(22) Date of filing: **04.07.92**

(30) Priority: **08.07.91 SE 9102123**

(43) Date of publication of application:
13.01.93 Bulletin 93/02

(84) Designated Contracting States:
AT BE CH DE DK FR GB IT LI NL SE

(71) Applicant: **AB FAGERHULT**
S-566 92 Habo(SE)

(72) Inventor: **Holgersson, Ingmar**
P1 8362
S-54400 Hjo(SE)

(74) Representative: **Siebmanns, Hubertus**
Gotapatent AB Box 154
S-561 22 Huskvarna(SE)

(54) Electric light fitting with anti-dazzle screen and method of producing such anti-dazzle screen.

(57) Electric light fitting with anti-dazzle screen and method of producing such an anti-dazzle screen, which consists of an assemblage of transverse ribs (13) and longitudinal parts (attachment strips 9, bracing rib 17). According to the invention, the transverse ribs (13) and the attachment strips (9) are produced from a sheet metal blank (30) provided with recesses (20, 28, 29), the attachment strips beeing bent to form cover flanges (11) with locking tongues (12) and the transverse ribs being bent pairwise to a V-shape and a bracing rib (17) being embedded within recesses or cut-out portions (20) of the transverse ribs, projections (22) and tabs (24) reaching into the recesses (20) and into the interior of the bracing rib, which projections and tabs are bent to flush abutment against the inside of the bracing rib for holding safely together such an anti-dazzle screen, which is to be hooked on to a reflector (4) of the light fitting, the free longitudinal edges (5, 6) of which are claw-shaped.

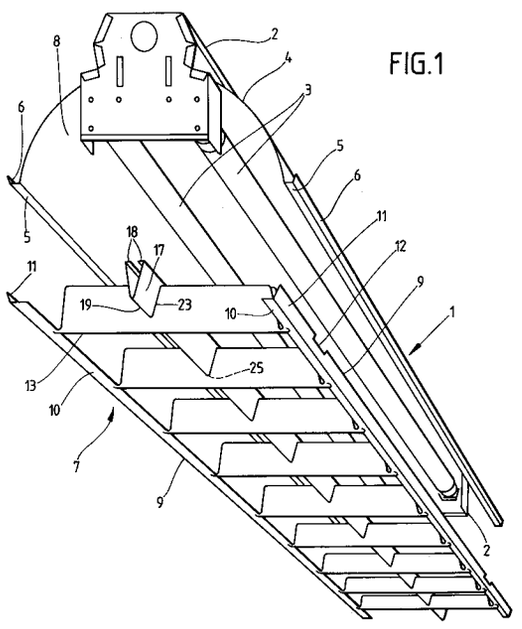

FIG.1

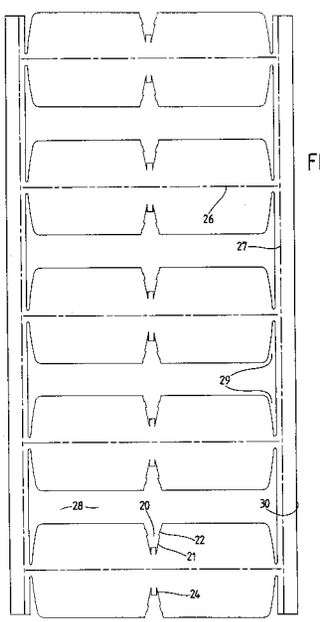

FIG.6

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The present invention concerns an electric light fitting and an anti-dazzle screen of the kind, as more closely defined in the preamble in claim 1. The invention concerns also a method of producing such an anti-dazzle screen according to the preamble of the first method claim.

Anti-dazzle screens for light fittings are manufactured either as homogeneous units by e.g. injection moulding in plastic material or are assembled by means of recessed ribs, which are hooked together. Such assembling methods render often a quite instable assembly. Another drawback with conventional anti-dazzle screens is that the provision of tools entails very high costs. Additionally, production is difficult and expensive to be adjusted to other products and other sizes, respectively. The anti-dazzle screens are attached either by positioning the screen on a ledge of the frame of the fitting or is the anti-dazzle screen held in position by means of holding means.

An object of the present invention is therefore to provide an electric light fitting with an inexpensive yet simultaneously strong and resistant anti-dazzle screen, which either may be manufactured in metal or plastic material, which lacks seperate parts, and which does not require great fitting accuracy in the state of assemblage or use. A further object of the invention is to provide an advantageous and useful method of producing such an anti-dazzle screen. For acchieving these objectives, an electric light fitting with an anti-dazzle screen are, in accordance with the present invention, characterized mainly by those features, which are stated in the characterizing clause of claim 1. Characterizing for the method are particularly those features, which are revealed by the first method claim.

The invention will now be more closely described with reference to the attached drawings. In the drawings;

Fig. 1 shows a perspective exploded view of an electric light fitting with an anti-dazzle screen according to the invention,

Fig. 2 shows an end view of the anti-dazzle screen,

Fig. 3 shows the anti-dazzle screen from below,

Fig. 4 is a side elevational view of the anti-dazzle screen,

Fig. 5 is a top plan view of the anti-dazzle screen, and

Fig. 6 shows a blank for an anti-dazzle screen according to the invention.

Fig. 1 shows an electric light fitting with an anti-dazzle screen according to the invention in its entirety. The fitting shows, by example, at the ends sockets 2 for fluorescent tubes and therebetween fluorescent tubes 3, which are surrounded by an elongate, tray-shaped or channel-like reflector 4 of e.g. sheet metal, the downward facing longitudinal edges of which reflector are firstly bent e.g. horisontally outwards to form webs 5 and then obliquely upwards and outwards to form through holding flanges 6.

An anti-dazzle screen 7 according to the invention is provided to be arranged in a reflector opening 8 and shows for this purpose lateral throughgoing attachment strips 9, which suitably are provided in the same plane and which are inteded to abut the webs 5 in plane-parallel relation in an assembled state with bases 10 facing each other. To the bases connect outwardly cover flanges 11 matching flanges 6 and likewise intended to abut flanges 6 in a plane-parallel manner and to be pushed onto same either from the one end of the fitting or, preferably, to be lifted straight upwards from below, whereby locking tongues 12 punched out from flanges 11 are intended to be hooked upon the flanges 11 possibly with snap-in action using the elasticity of the material or structure of at least the one part.

In lateral direction, transverse ribs 13 extend at mutually preferably uniform distance between bases 10, which ribs are preferably made in one piece with bases 10 and flanges 11. These transverse ribs are suitably v-shaped in crossectional view comprising legs 14, the joining point of the legs preferably being situated in the same plane as bases 10, the symmetry plane of each transverse rib having a leg on each side and extending at right angle in relation to the plane of bases 10. In this connection, various inclinations are, however, conscevable. The ends 16 of the transverse ribs converge, preferably, in a straight or curved way towards the free longitudinal edges of the transverse ribs, preferably matching the contour of the inside of the reflector 4.

The transverse ribs are suitably interconnected centrally by a longitudinal bracing rib 17, which preferably is also V-shaped in cross-section, the free longitudinal edges may, however, be bent towards each other to form flanges 18, which may have an additional stiffening and/or holding function. This bracing rib is recessed into the transverse ribs 13 but, preferably, not down to their joining point or bottom 15, instaid having their bottom 19 preferably som centimeter higher up. In the shown example, the transverse ribs and the bracing rib have app. the same height, which means that the bracing rib projects somewhat upwards from the transverse ribs. It is conceivable, of course, that the contour of the bracing rib or of several bracing ribs terminates app. on the same level as the transverse ribs or possibly on an even lower level.

For retaining the bracing rib, said transverse ribs are provided e.g. centrally with V-shaped re-

cesses or cut-out portions 20, the side edges 21 of which recesses advantageously showing projections 22 provided to be inserted into e.g. slit-like apertures 23 in said bracing rib, which projections are bent in lateral direction on the inside of said bracing rib in this way holding the bracing rib attached to the transverse ribs and bracing and stiffening up the transverse ribs even mutually and lending to the entire screen stiffness and resistance to torsion. For the same reason, from the bottom of the recesses 20 there projects a tab 24, which is provided to be inserted into an e.g. rectangular hole 25 in the bottom of the bracing rib, against the inside or upper side of which said tabs are to bent in lateral direction upon their insertion.

It may be particularly advantageous, if the blank for an anti-dazzle screen as shown in fig. 6 and even a blank for a bracing rib are bent in such a way, that the transverse ribs and/or the bracing rib prior to the assembling operation show leg angles, which differ from corresponding angles in the assembled state. In this way, the legs can during the assemblage with certain tension or structural elasticity, i.e. against the action of a certain spring power, be forced into the assembled location, in which way shattering is almost safely avoided and further stiffness is achieved. This is achieved particularly by pressing together the respective leg pair somewhat during assemblage.

Fig. 6 reveals, that e.g. a metal blank simply may be provided with necessary recesses and cut-out portions, the recess pattern may be simply and easily repeated for achieving infinite length. All what is required after a cutting or punching operation is bending the transverse ribs around base lines 26 and bending the cover flanges around bending lines 27, the cover flanges 11 being soner or later provided with cuts to delimit portions, which then are bent inwardly to form the locking tongues 12 as described and shown. As easy is it to bend a blank provided with recesses to a bracing rib and then to attach same to the transverse ribs in the described manner. As the bracing rib is open both upwards and in axial direction, it is easy to insert one or several tools for bending aside the projections and tabs of the transverse ribs to abutment with the inside of the bracing rib, which is all what is required for manufacturing and assembling an anti-dazzle screen according to the invention.

The anti-dazzle screen according to the invention may, apart from sheet metal, be manufactured of plastic material, in which connection it is conceivable to weld together the respective parts at the connecting points in addition to the described jointing of openings, recesses and interacting projections and tabs.

Even with use of very thin sheets, an anti-dazzle screen according to the invention is extremely strong and resistant to torsion and bending.

The invention is not limited to the examples described above and shown in the attached drawings, which only are to be regarded as examples, which may be modified and completed in an arbitrary manner within the framework of the invention.

Claims

1. Electric light fitting (1) with an anti-dazzle screen (7) consisting of longitudinal parts (attachment strips 9, bracing rib 17) and transverse ribs (13), the transverse ribs (13) and the attachment strips (9) being made in one piece, **characterized in that** the transverse ribs (13) being V-shaped in a cross-sectional view with their openings facing the light fitting and their joining point (15) located roughly in the plane of the attachment strips (9), and that the transverse ribs additionally are interconnected by at least one bracing rib (17) being V-shaped in a cross-sectional view, which bracing rib is embedded in V-shaped recesses (20) in the transverse ribs and secured in this position by means of projections or tabs (22, 24), the latter forming part of a common blank for the transverse ribs and the attachment strips and project into and through matching apertures (23) in the bracing rib and are bent aside for securing a so achieved assemblage.

2. Electric light fitting according to claim 1, **characterized in that** the fitting (1) shows at its ends sockets (2) for and with there between provided fluorescent tubes (3), which are surrounded by an elongate, cup- or tray shaped reflector (4) of e.g. sheet material, the downward facing longitudinal edges of which are firstly bent e.g. horisontally outwardly to form webs (5) and subsequently obliquely upwards and outwards to form through holding flanges (6).

3. Electric light fitting according to claim 2, **characterized in that** the anti-dazzle screen (7) is provided to be arranged in said opening (8) of said reflector (4) and shows for this purpose said attachment strips (9), which are arranged laterally, throughgoing and in the same plane and to abut with bases (10) facing each other said webs (5) in plane-parallel relation in an assembled state.

4. Electric light fitting acording to claim 3, **characterized in that** said bases (10) outwardly connect to angled cover flanges (11) corre-

sponding to said holding flanges (6), which cover flanges are provided to abut, likewise in plane-parallel relation, said holding flanges (6) and to be pushed onto the latter from either the one end of the light fitting or, preferably, straight upwards from below, locking tongues (12) punched out of said cover flanges (11) being provided to be hooked onto the holding flanges (6), possibly with snap-in action with use of material or structural elasticity of at least the one part.

5. Electric light fitting according to claim 4, **characterized in that**, said transverse ribs (13) extend laterally between said bases (10) preferably at mutually uniform distance, which ribs are made in one piece with said bases (10) and said cover flanges (11), and which ribs are V-shaped in a cross-sectional view with forming of legs (14), the joining point (15) of these legs being preferably located in the same plane as said bases, the plane of symmetry of each transverse rib having one leg located on each of its sides at right angle in relation to the plane of said bases or inclined in relation to the latter plane, and/or that the ends (16) of the transverse ribs converge, suitably in a straight or curved manner towards the free longitudinal edges of the transverse ribs, preferably matching the conture of the inside of the reflector (4).

6. Electric light fitting according to any of claims 1 - 5, **characterized in that** the transverse ribs centrally are inter-connected by said bracing rib (17), the free longitudinal edges being preferably bent towards each other to form flanges (18) for achieving an additional stiffening function and/or a holding function, and/or that said bracing rib is embedded into the transverse ribs (13) but, preferably, not down to their bottom (15) but rather being located with their bottom (19) suitably some centimeter higher up, the transverse ribs and the bracing rib preferably having app. the same height rendering the bracing rib to project somewhat above the transverse ribs.

7. Electric light fitting according to any of claims 1 - 6, **characterized in that** for securing the bracing rib (17), said transverse ribs (13) being e.g. centrally provided with said V-shaped recesses or punched-out portions (20), the side edges (21) of wich show said projections (22) provided to reach into said e.g. slot-like openings (23) in the bracing rib and to be bent aside on the inside of the bracing rib in order to secure the bracing rib to the transverse ribs, and/or that from the bottom of said recesses (20) theire projects a tongue (24), which is provided to be extended through an e.g. rectangular hole (25) in the bottom of the bracing rib, against the inside or upper side of wich the tongues upon their insertion, are provided to be bent aside.

8. Method of producing an anti-dazzle screen (7) for an electric light fitting (1) according to any of claims 1 - 7, which anti-dazzle screen consists of elongate parts (attachment strips 9, bracing rib 17) and transverse ribs (13), the transverse ribs (13) and the attachment strips being made of one coherent blank (30), **characterized in that** said blank (30) is provided with necessary cut-out or punched-out portions, the cutting or punching pattern being repeated for achieving infinite lengths, that upon the cutting or punching operation the blank parts for the transverse ribs are bent around base-lines (26) and the blank parts for the attachment strips are bent around bending lines (27), said blank being at any stage preferably provided with cut-out portions (12) in the cover flanges (11), which cut-out portions then are bent inwardly to form locking tongues (12), and that a blank for a bracing rib being provided with cut-out or punched-out portions being bent to form a bracing rib, which then is attached to the transverse ribs.

9. Method according to claim 8, **characterized in that** the blank (30) for transverse ribs and attachment strips and the blank for a bracing rib (17) are bent such, that the transverse ribs (13) and/or the bracing rib (17) prior to assemblage show leg pair angles differing from corresponding angles in an assembled state, so that during assemblage said legs are forced in position with certain tension or structural elasticity, i.e. against the effect of a certain spring power for avoiding shattering and achieving further stiffness, the respective leg pairs being particularly pressed together somewhat during assemblage.

10. Method according to claim 8 or 9, **characterize in that** the anti-dazzle screen is made of plastic material, the joining points of the respective parts, in addition to the said interlocking via apertures, recesses and projections and tongues entering into same, are welded together.

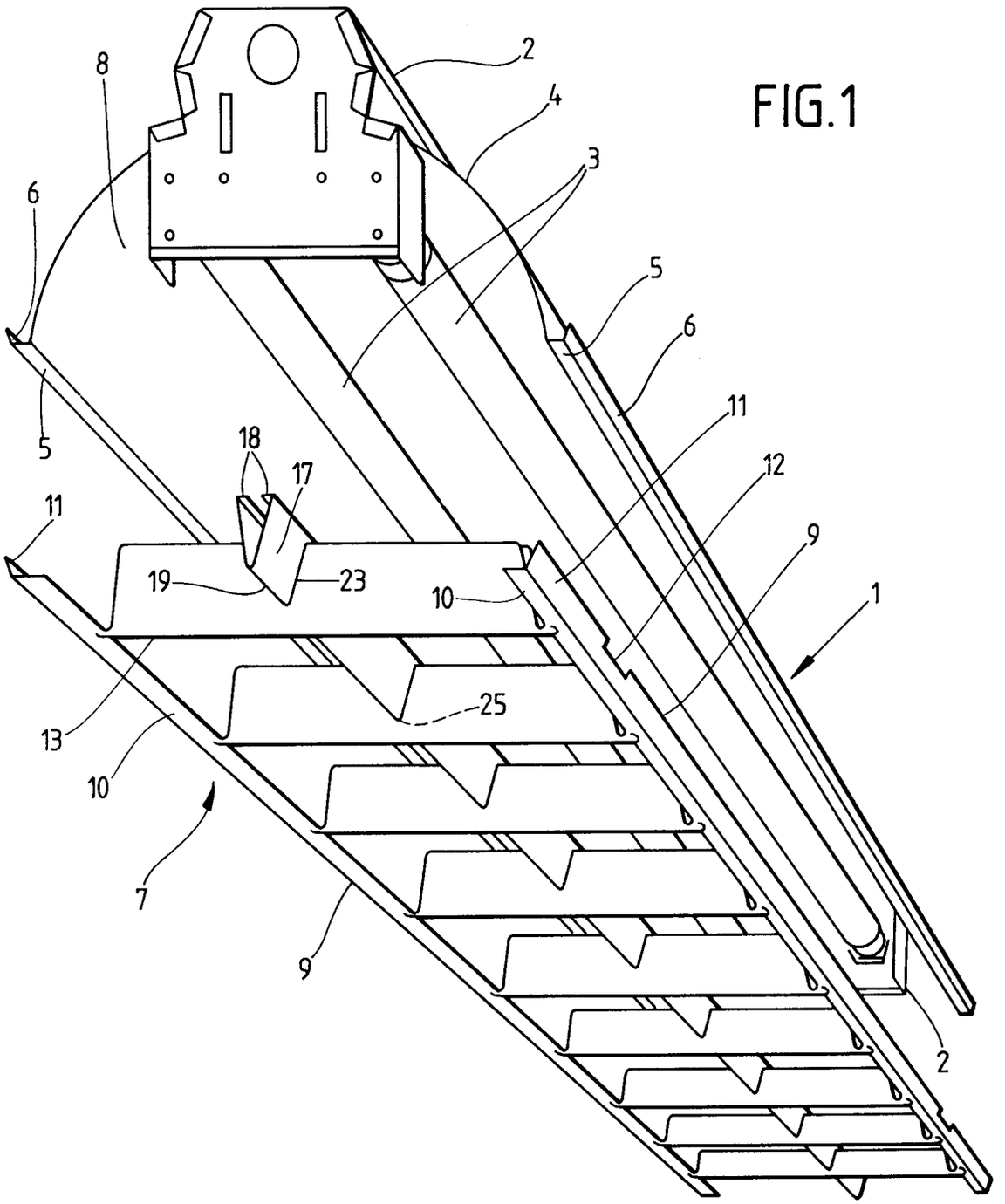

FIG.1

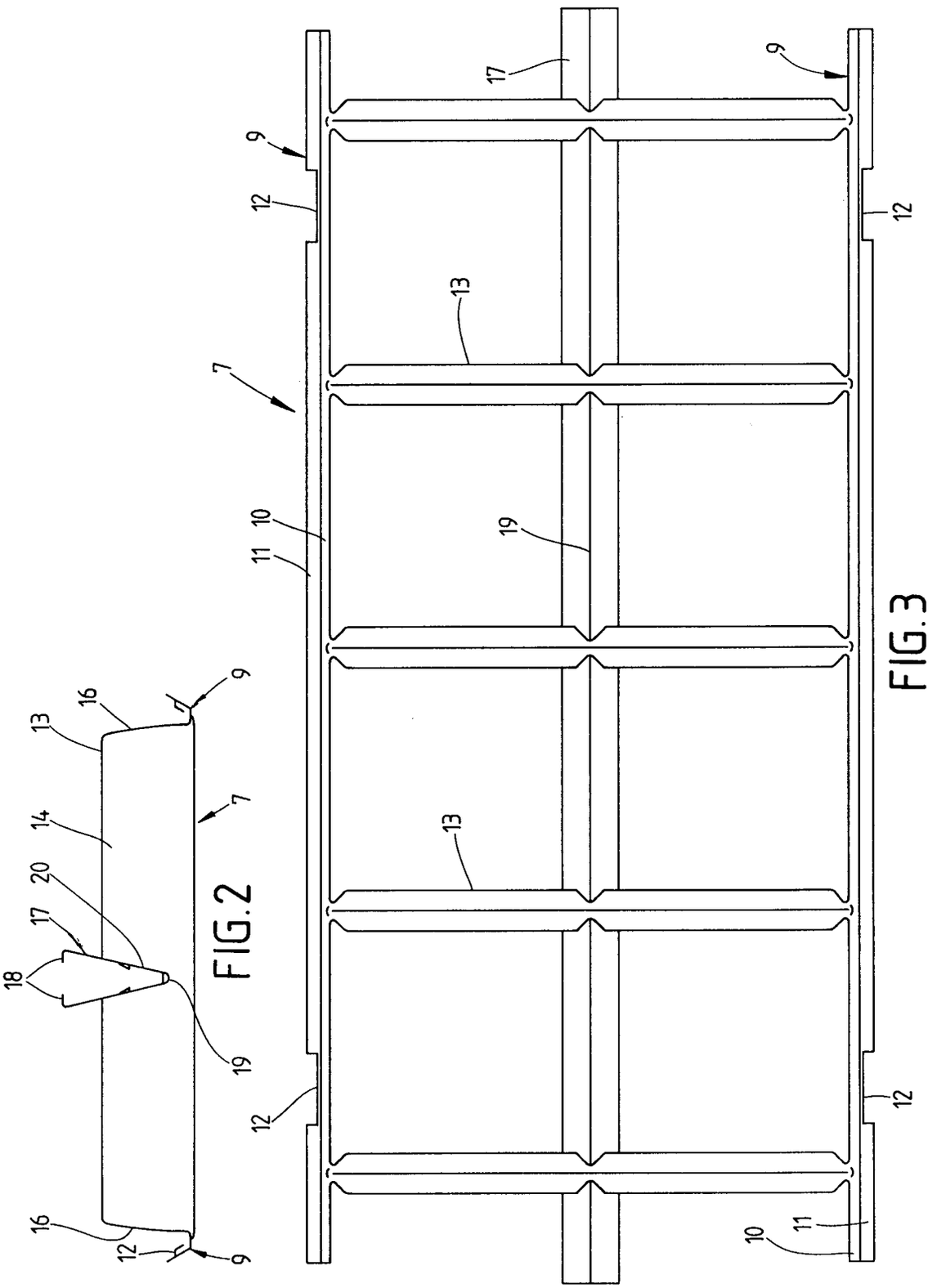
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FIG.2

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FIG.3

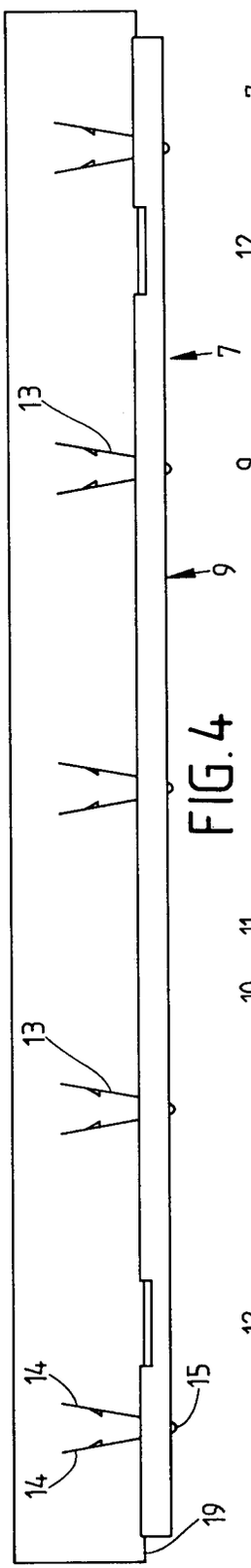

FIG. 4

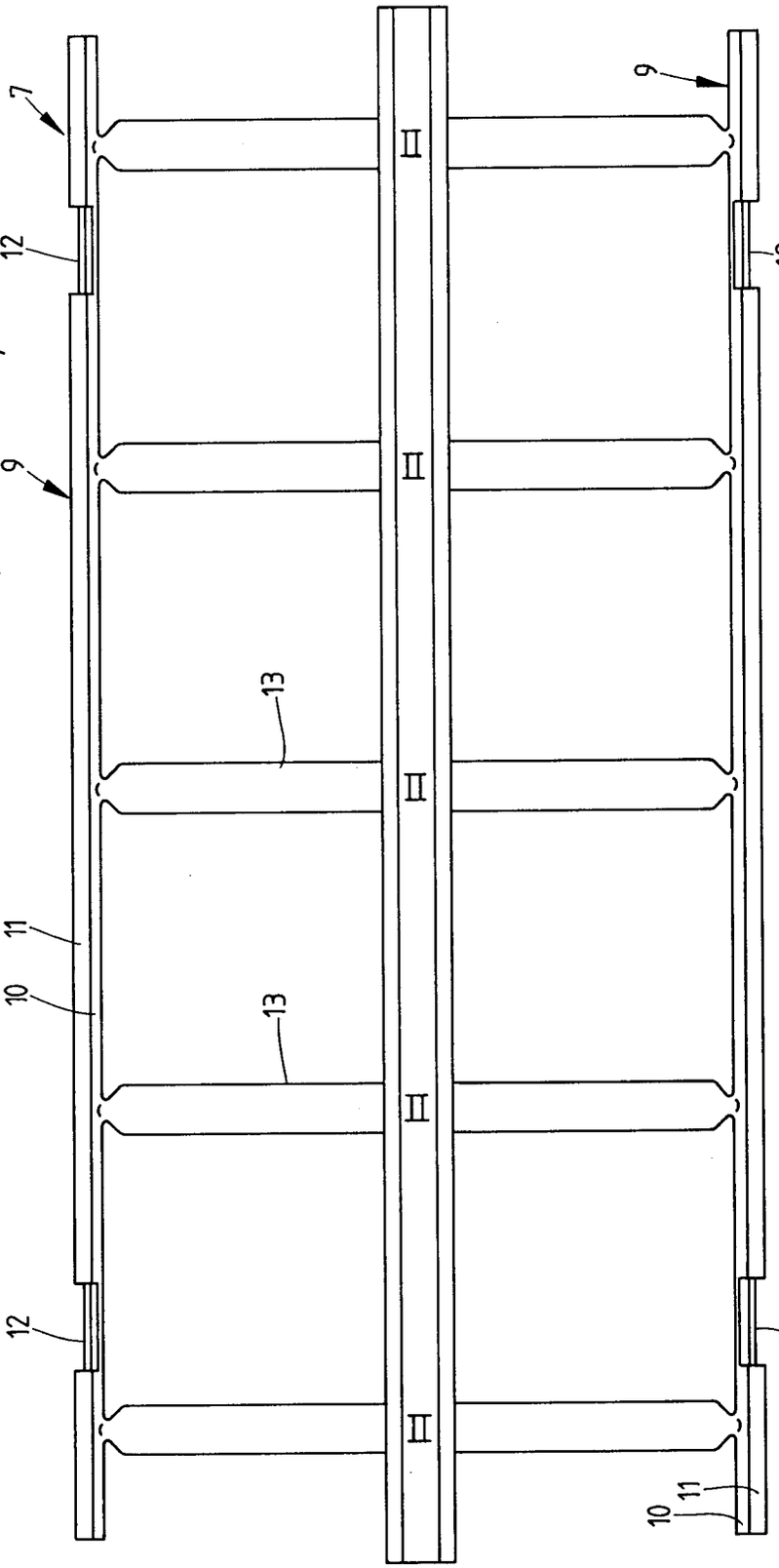

FIG. 5

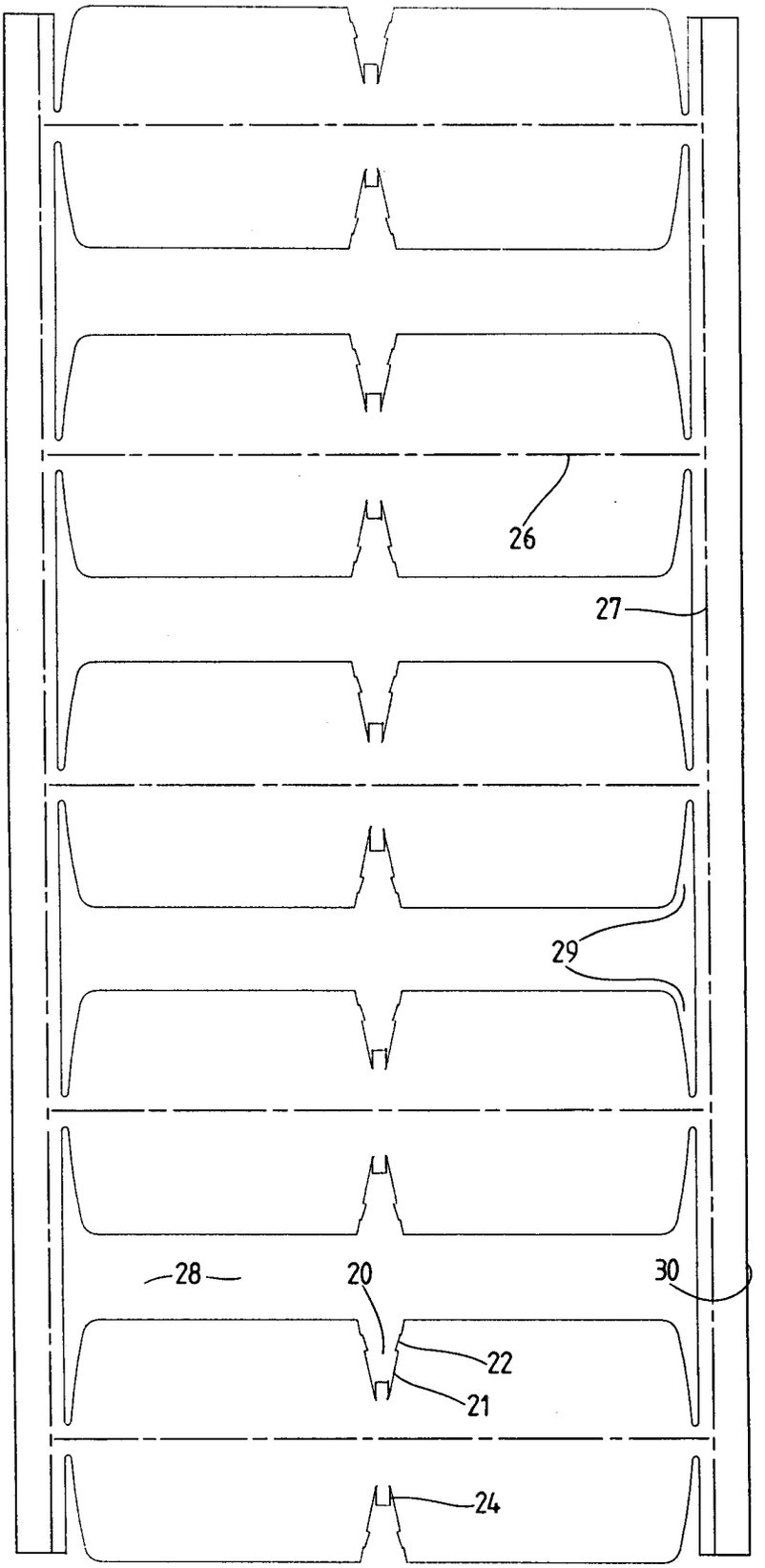

FIG.6

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EUROPEAN SEARCH REPORT

Application Number

EP 92 11 1396

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Y	DE-A-2 916 331 (KORSCH) * claims 1,3,12,14; figures 1-5,8,9 *	1,5-9	F21V11/02
A		2-4	

Y	US-A-3 016 997 (PRICE) * column 2, line 18 - line 62 * * column 3, line 22 - line 25; figures 1-8 * *	1,5-9	

Y	GB-A-668 693 (SYLVANIA ELECTRIC PRODUCTS INC.) * page 2, line 53 - line 65; figures 1-4 *	1,5-9	

			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			F21V

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	09 OCTOBER 1992	MARTIN C.P.A.

CATEGORY OF CITED DOCUMENTS

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