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(54) **SCAFFOLDING PLATFORM**

(57) The platform is constituted by assembly to each other of two plates (1) and (2) equipped with complementary means of matching (9) and (12), as well as with a tubular and lower formation (3-4) on the end opposite to that of the respective means of assembly (9-12), tubular formation (3) or (4) determining a stiffening of the respective plate, with the particularity that plate (2) , in correspondence with the respective means of assembly (12), has an inverted-T profile (14) which collaborates in the stiffening of the plate. The platform determined by those two plates (1) and (2) is made of aluminium and is supplemented with some lower crosspieces (16) on which rest profiles (14), the ends being closed with brackets (18) equipped with conventional hooks (19) for hanging the platform (16) with respect to the structure of a scaffold. Optionally, the platform can be of greater width it only being necessary to insert a plate (22) equipped with means of assembly (9') and (12') similar and complementary to means of assembly (9) and (12) of plates (1) and (2).

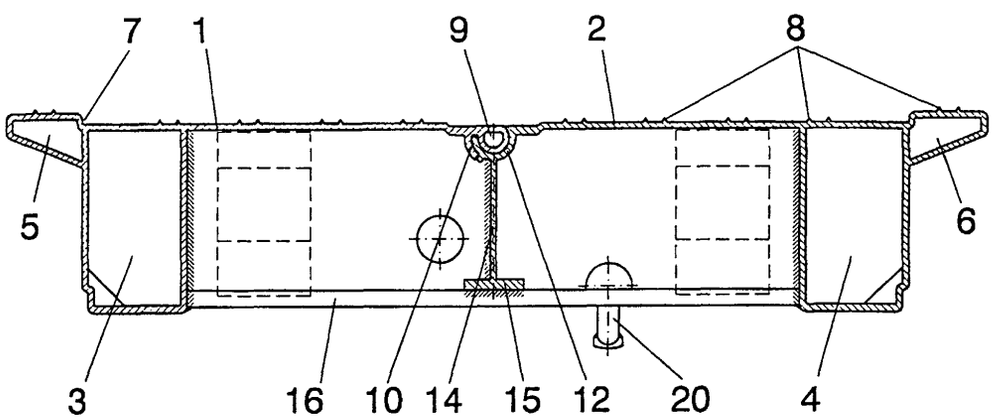


FIG. 7
A-A

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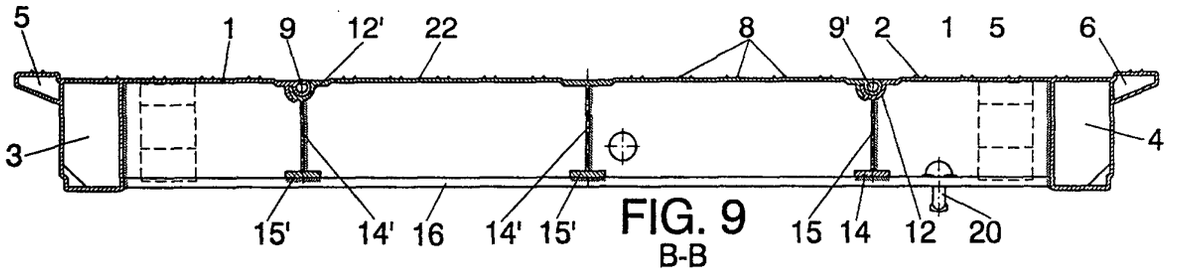


FIG. 9
B-B

## Description

### OBJECT OF THE INVENTION

**[0001]** The present invention refers to a platform for scaffolds, which is constituted by means of assembling two aluminium plates equipped with means of matched coupling and with means of hooking for its hanging from the structure of the scaffold. The platform can be formed by the two basic plates mentioned and a third plate also of aluminium, capable of assembly between the former to achieve a greater width of the platform itself.

**[0002]** The object of the invention is to provide the market in general and the construction sector in particular, with a scaffold platform which is modular and is made of aluminium, proving much lighter than the conventional ones and therefore easier to handle, as well as allowing the width thereof to be increased notably by means of a plate which is mounted lengthwise between the two basic plates constituting the platform, without requiring additional elements and without requiring modification whatever of the basic plates nor of the elements thereof.

### BACKGROUND OF THE INVENTION

**[0003]** Generally speaking, scaffold platforms are constituted by a sheet metal plate, sufficiently strong to support the weight of the persons working on top and even of the materials being used in the building of, for example, walls in the case wherein the platform is applicable to construction work. Also, the platforms have means of hooking to the structure of the scaffold, to achieve adequate stability of said platforms and are usually even equipped with means which allow the coupling of the platforms one after the other, determining practically a continuous surface, all of them with means of fastening to or hanging from the structure of the scaffold.

**[0004]** Specifically, in Spanish Utility Model N° 8900579 by the same applicant, a scaffold platform is described incorporated by the classic sheet metal plate, by means of stiffening and longitudinal wings projecting vertically downward, forming underneath in each one of them an internal U-shaped profile directed upward, so that between the profiles of both sides and the underside of the plate some transversal and end pieces equipped with hooks are located and secured for hanging the structure from the scaffold.

**[0005]** One of the drawbacks of this type of platform, is its high weight, which produces difficulty in the manipulation required when assembling and dismantling the platforms, as well as, being sheet metal, they usually rust easily, which limits their period of usefulness.

**[0006]** Another of the drawbacks of the conventional platforms, consists in that their width is constant, there being no possibility of increasing this in determined cases and/or circumstances in which it would be of great utility to have a platform of width greater than normal.

### DESCRIPTION OF THE INVENTION

**[0007]** The platform for scaffolds which is propounded has been improved in determined structural aspects thereof, in order to resolve the aforementioned drawbacks which are present in the conventional platforms, and at the same time to obtain some new functions or uses.

**[0008]** More specifically, one of the innovations of the platform consists in being made from aluminium, with the consequent notable reduction in weight and, as a consequence, facilitating thereby the manipulation thereof.

**[0009]** Another innovation of the platform is that of being constituted by two basic plates, with the possibility of being constituted by means of three plates and achieving thereby a greater width without requiring additional elements nor complex and inappropriate assemblies, as sometimes occurs with conventional platforms.

**[0010]** The two basic plates constituting the platform, are assembled lengthwise to each other by matched coupling, having for this on one of their longitudinal edges individual complementary formations, in one case forming a species of cylindrical channel open above and in the other case forming a cylindrical rib which is positioned in the channel of the preceding plate, having also a butt which prevents, after assembly, both plates from tilting downward, since if this occurred an angle would be formed between said pieces and the flatness of the platform which they constitute would be lost.

**[0011]** The aforementioned plates are also supplemented with a limiting and guiding means for assembly, determined by an arched lug foreseen in parallel with a segment of the perimeter corresponding to the cylindrical rib of one of the pieces, being determined between the lug and the rib a narrow arched channel into which is inserted and adapted the respective arched side segment corresponding to the cylindrical channel of the other plate.

**[0012]** Said two plates, as well as the means of assembly mentioned and of the conventional non-slip protuberances which scaffold platforms usually have on their upper surface, comprise some means of stiffening constituted by tubular sectors, preferably rectangular and of notable width, foreseen on the underside of the edge opposite to that equipped with the means of assembly, although the piece equipped with the cylindrical channel constituting the other means of assembly, has in correspondence with the latter an inverted-T profile projecting downward.

**[0013]** The plates also have a tubular formation in the shape of a trapezoidal sector, projecting outward, in correspondence with the upper part of the edge corresponding to the aforementioned formation in the form of a rectangular sector for stiffening.

**[0014]** The platform is also supplemented with some lower crosspieces on which rest the inverted-T profiles

for stiffening.

**[0015]** The platform incorporated in the manner described has the possibility of being widened without requiring modification whatever, for which reason a third plate has been foreseen which is inserted between the two basic plates, the former having means of assembly similar and complementary to those foreseen in the two basic plates. The means for stiffening this third plate are constituted by two inverted-T profiles, one in the centre and another on one of the ends.

**[0016]** Finally, it is mentioned that the ends of the platform are supplemented with individual transversal fishplates serving as brackets closing said ends, which brackets have externally, as is conventional, the classic hooks for hanging the structure from the scaffold, whilst in opposition to the hooks it has means whereby the coupling is made by fitting into the platform itself.

## DESCRIPTION OF THE DRAWINGS

**[0017]** To supplement the description being made and with the object of assisting in a better understanding of the characteristics of the invention, in accordance with a preferred example of practical embodiment thereof, said description is accompanied, as an integral part thereof, by a set of drawings wherein by way of illustration and not restrictively, the following has been represented:

Figure 1 shows a side view of one of the two basic plates of the platform which constitutes the object of the present invention.

Figure 2 shows another also side view of the second basic plate of the platform.

Figure 3 shows another side view of the third plate, the optional assembly of which between the two plates corresponding to the previous figures signifies the widening of the platform.

Figure 4 shows a top plan view of the platform constituted by means of the two basic plates represented in figures 1 and 2.

Figure 5 shows a view in longitudinal elevation of the platform represented in the previous figure.

Figure 6 shows an end view of the platform represented in the two previous figures.

Figure 7 shows a view in transversal cross-section corresponding to cutting-plane line A-A represented in figure 4.

Figure 8 shows a top plan view of the platform which incorporates the intermediate plate to provide greater width to the former.

Figure 9 shows a view in transversal cross-section of the platform represented in the previous figure, said section corresponding to the cutting-plane line B-B represented in said figure 8.

## PREFERRED EMBODIMENT OF THE INVENTION

**[0018]** In the light of the aforementioned figures, the platform of the invention is constituted by assembly to each other of two plates (1) and (2) which are of elongated rectangular configuration and which have means, preferably matched, for the assembly by mutual coupling of both plates (1) and (2).

**[0019]** Structurally, plates (1) and (2) are stiffened by means of respective tubular formations (3) and (4) which are rectangular and of notable width, which project vertically downward in correspondence with one of the ends of the plates, specifically of the end opposite to that equipped with the means of assembly. Likewise in that end, plates (1) and (2) are prolonged laterally and on top in a tubular formation (5) and (6), respectively, which is trapezoidal and of much smaller width than formations (3) and (4), so that that side and top formation forms in each case a step (7) with the top plane of the aforementioned plate (1) or (2).

**[0020]** That top plane, as well as that which is determined by side and top formations (5) and (6), have some longitudinal protuberances (8) which define the non-slip means with which, to this end, platforms for scaffolds are usually provided.

**[0021]** The means of assembly are constituted by a cylindrical rib (9) foreseen in the lower part of the longitudinal edge opposite to that of the tubular formation or sector for stiffening (3), of plate (1), that cylindrical rib (9) being supplemented with a bracket (10) located in a more interior point, and which runs in an arch parallel to the curvature of cylindrical rib (9), forming with the latter a groove (11) of arched trajectory. The upper part wherein are established rib (9) and bracket (10) is flat and forms a slight step with respect to the rest of the surface of plate (1).

**[0022]** For its part, plate (2), as means of assembly, includes in the respective longitudinal edge a cylindrical groove (12), open on the top and with a butt (13) extending radially at an angle toward the exterior, as is clearly seen in figure 2.

**[0023]** The assembly by matching is implemented by positioning cylindrical rib (9) of plate (1) in groove (12) of plate (2), so that the wall segment corresponding to that groove (12) determined between the projection serving as butt (13) and the free edge of the former, is guided in groove (11) of plate (1), until butt (13) of plate (2) comes up against the free edge of bracket (10) of plate (1), limiting thereby the tilting between the two plates (1) and (2), that butt or tilting limitation being established when both are coplanar, that is, in the same plane.

**[0024]** Plate (2), as well as the tubular and stiffening

sector (4), has, in correspondence with the opposite edge, a web or profile (14) in inverted-T shape, which projects perpendicularly to plate (2) from the central or intermediate point of circular and open channel (12) defining the means of assembling such plate (2), so that the transversal and lower segment of profile (14) rests on respective crosspieces (16) mounted on the underside of platform (17) which the two plates (1) and (2) form, as is represented in figure 4.

**[0025]** Platform (17) constituted by assembly of the two plates (1) and (2), is also supplemented with some end closing brackets (18) constituted by individual fishplates which are mounted on platform (17) itself, those brackets (18) having respective hooks (19) for hanging or suspension from the platform with respect to the general structure of the scaffold in which it is applied.

**[0026]** Figure 5 is shows how through those hooks (19) and with the collaboration of some rods (20) in oblique arrangement, the platform is hooked from some bars (21) corresponding to the commented structure of the scaffold.

**[0027]** The platform so constituted is capable of being widened without requiring additional elements, it being sufficient to mount a third plate (22) assembled between the two previous ones, so that this plate has on one of its longitudinal edges a cylindrical rib (9') and the arched bracket (10'), and on the opposite edge a cylindrical groove (12') and a projection serving as butt (13'), all this in like manner to the means of assembly established in basic plates (1) and (2), allowing thereby assembly of this plate (22) to both plates (1) and (2), as is represented in figures 8 and 9. The additional or complementary plate (22) is equipped on its upper surface with the corresponding non-slip protuberances (8), whilst on the underside it has profiles (14') in inverted-T, with their lower transversal flange (15'), one of which profiles (14') is located in correspondence with the means of assembly determined by groove (12'), whilst the other profile (14') is established in an intermediate area of plate (22), profiles (14') determining the means for stiffening such plate (22), resting through its lower transversal flange (15') on respective crosspieces (16) already referred to.

**[0028]** That platform (17') which has intermediate plate (22), endowing the former with a greater width than represented in figure 4, has the same characteristics as the latter, with the corresponding end closing plates (18), hooks (19), and the form of suspending or hooking that platform, through hooks (19), on bars (21), with the complement of pins (20), in an exactly similar manner to that remarked for platform (17).

## Claims

1. Platform for scaffolds, which being foreseen to form a horizontal surface hanging from the structure of the corresponding scaffold, to allow the mobility of workers and the load of material to be used by the latter, is **characterised in that** it is incorporated by means of a pair of aluminium plates (1) and (2), assembled to each other by complementary means of matching (9) and (12) foreseen on one of the longitudinal edges of both plates (1) and (2); there having been foreseen on the edge opposite to that of means of matching (9) and (12), a wide tubular formation (3) and (4) determining a sector projecting downward, as a means for stiffening plates (1) and (2), respectively; being also supplemented with some lower crosspieces (16) on which rests an inverted-T profile (14), which projects from the means of assembly (12) of plate (2), with the particularity that the ends of platform (16) determined by the assembly of said two plates (1) and (2), are each closed by individual brackets (18) equipped with the corresponding and conventional hooks (19) for suspension.

2. Platform for scaffolds, according to claim 1, **characterised in that** the means of assembly (9) of plate (1) is constituted by a cylindrical rib foreseen underneath with respect to one of the longitudinal edges of said plate (1), such cylindrical rib (9) being supplemented with an arched bracket (10), slightly separated from rib (9), and parallel to the curvature thereof; whilst the means of assembly (12) of plate (2) is constituted by a cylindrical channel open above, for the adapted insertion of cylindrical rib (9) of plate (1), said cylindrical channel (12) having a small radial and external projection, oblique, determining a butt (13) against the free edge of arched lug (10), to maintain the flatness between both plates (1) and (2), in the assembly thereof.

3. Platform for scaffolds, according to claim 1, **characterised in that** inverted-T profile (14), foreseen as complementary means for stiffening plate (2), emerges perpendicularly from the central and intermediate and more interior point of cylindrical channel (12) belonging to said plate (2), it having been foreseen that the support on lower crosspieces (16) of platform (17) determined by plates (1) and (2), is implemented through the transversal and lower flange (15) of said profile (14).

4. Platform for scaffolds, according to claim 1, **characterised in that** on the end corresponding to tubular formation (3) or (4), determining the lower sector of stiffening of both plates (1) and (2), has on top a tubular and trapezoidal formation (5) and (6), of less width, projecting outward, which forms a small step (7) with the upper surface of corresponding plate (1) or (2).

5. Platform for scaffolds, according to previous claims, **characterised in that** optionally, between the two plates (1) and (2), a third plate (22) can be inserted

equipped with similar means of assembly (9') and (12') for the coupling between said intermediate plate (22) and the two side plates (1) and (2), defining a platform (17') of notable greater width, with the particularity that said intermediate plate (22) has inverted-T stiffening profiles (14'), one in correspondence with an intermediate area and another in correspondence with the edge corresponding to cylindrical channel (12') of assembly, said profiles (14') being equipped with their respective transversal and lower flange (15') for resting on the corresponding lower crosspieces (16) which platform (17') includes, determined by plates (1), (2) and (22).

**6.** Platform for scaffolds, according to previous claims, **characterised in that** plates (1), (2) and (22) have on their upper surface non-slip means, constituted preferably by small longitudinal protuberances (8).

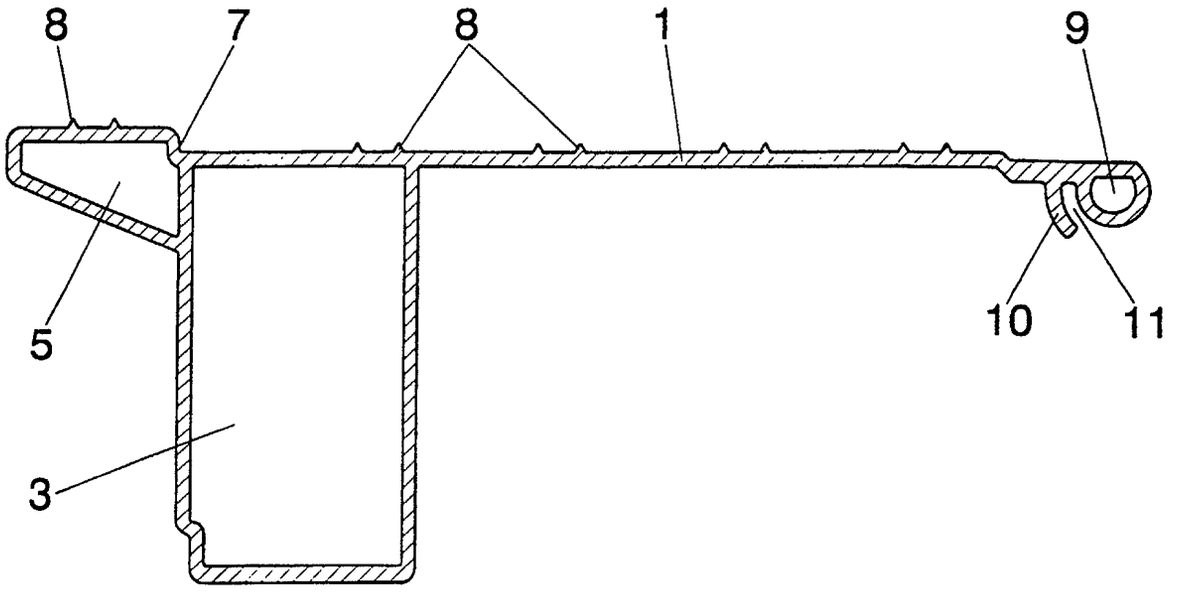


FIG. 1

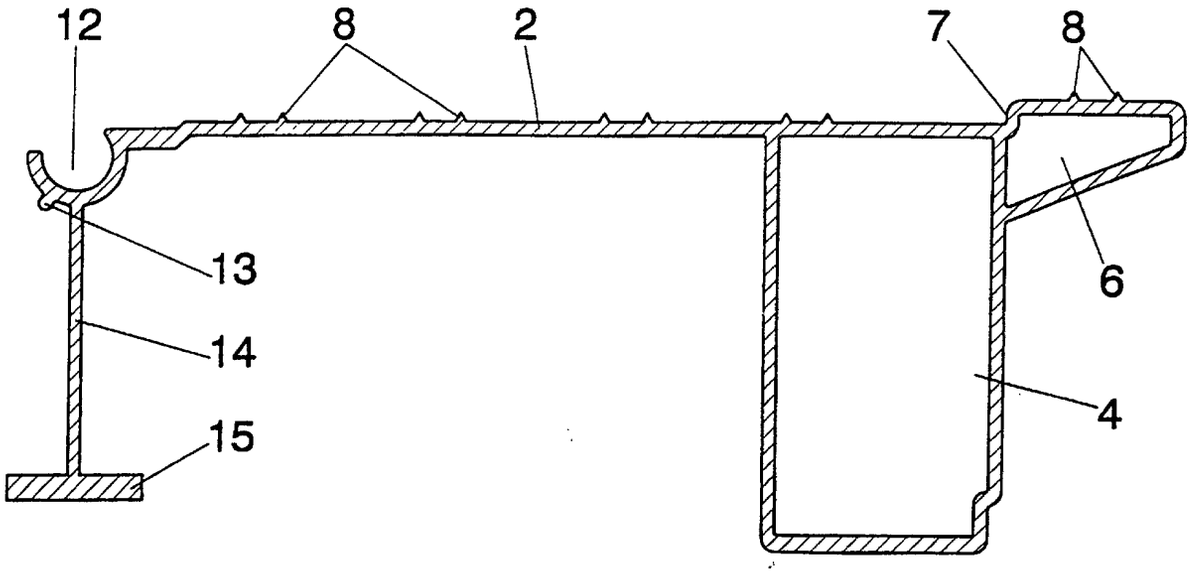


FIG. 2

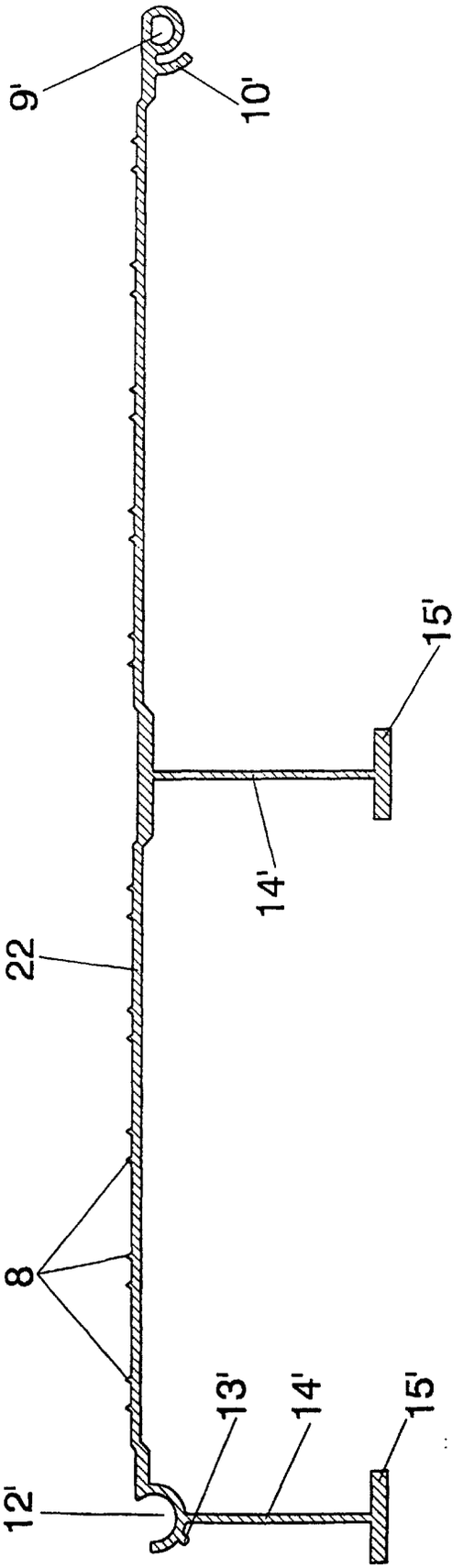


FIG. 3

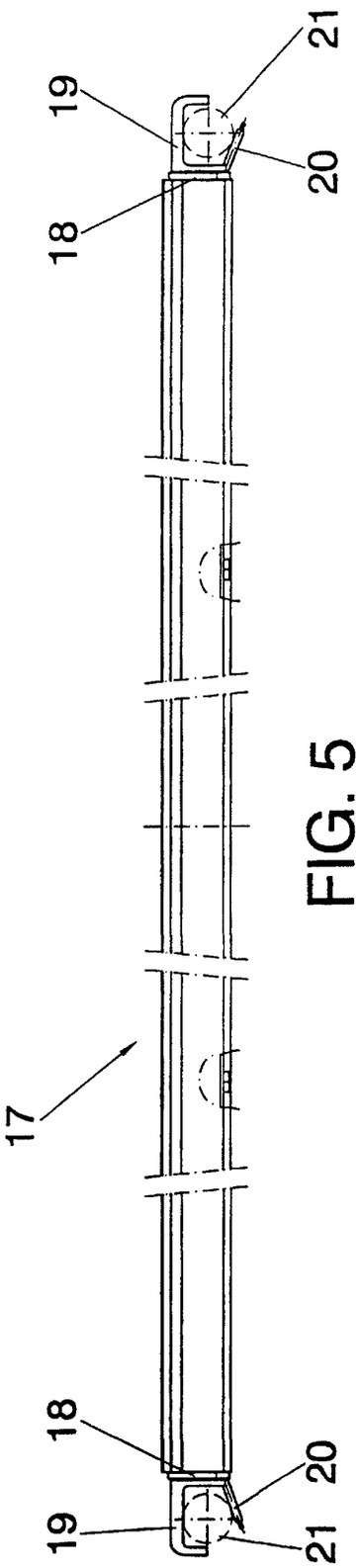


FIG. 5

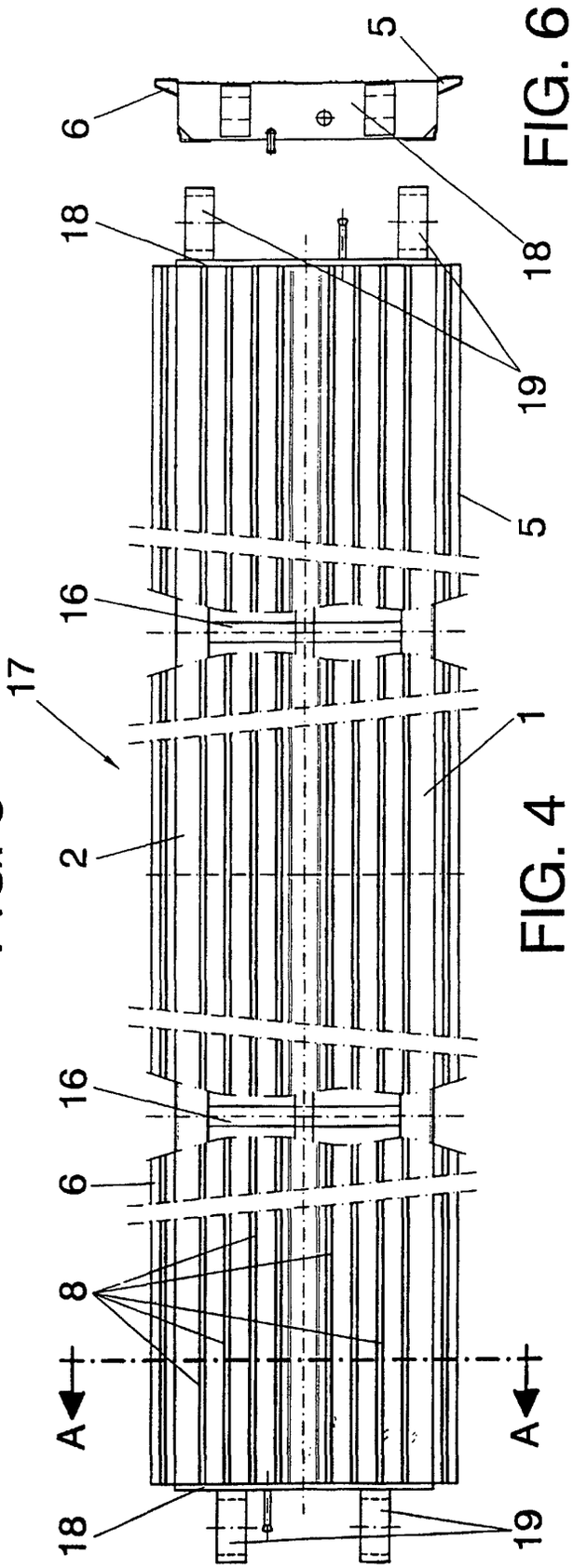


FIG. 4

FIG. 6

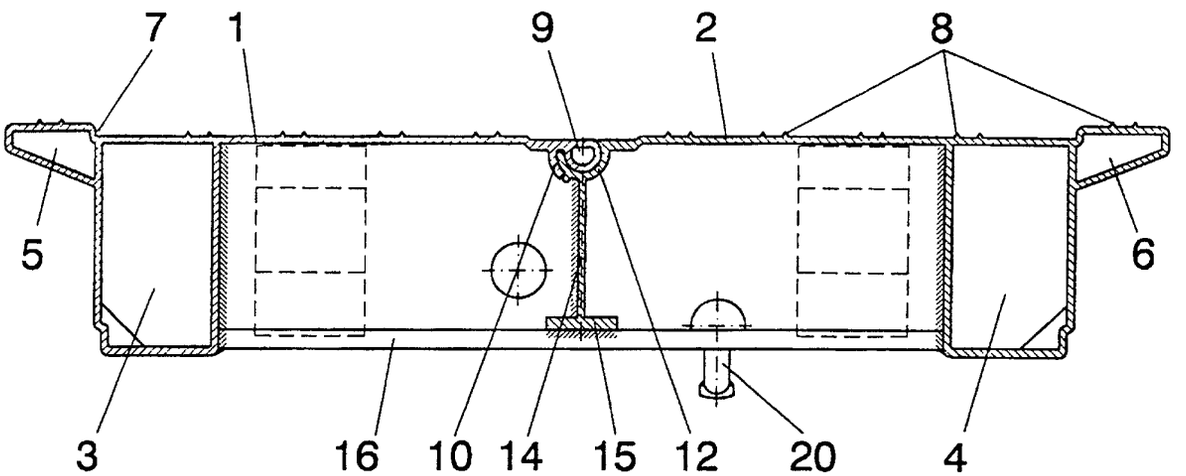


FIG. 7
A-A

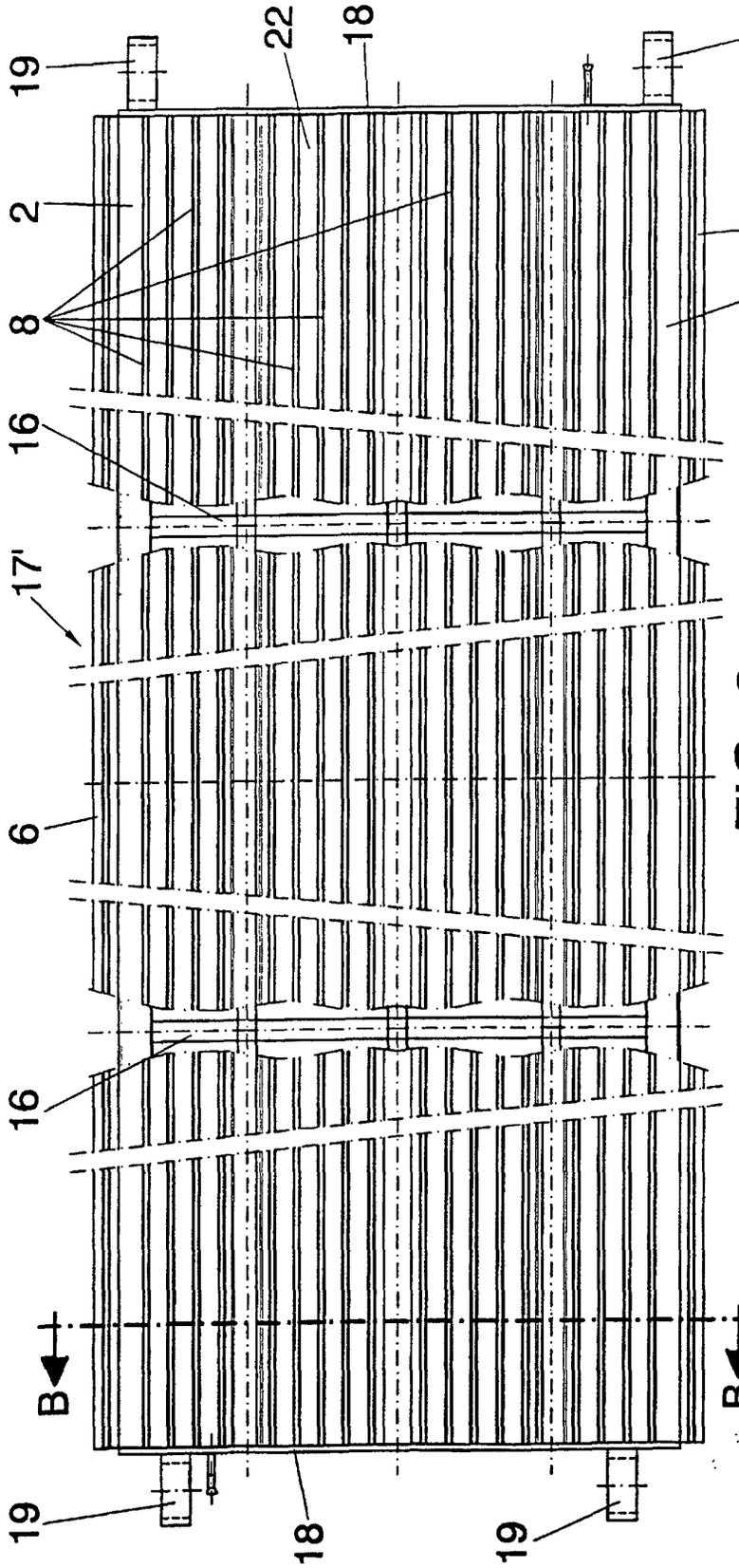
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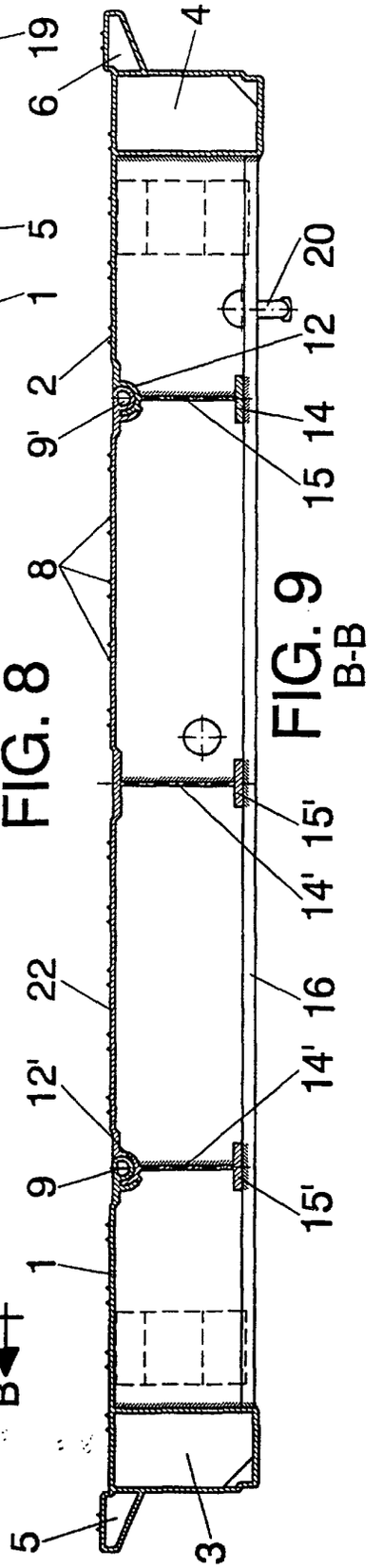
FIG. 8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20
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12
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14'
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3

FIG. 9
B-B

## INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES 01/00159

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E04G 1/15, E04G 5/08

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)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

IPC 7 E04G

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CIBEPAT, EPODOC, WPI, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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

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| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 10 August 2001 (10.08.01) | 27 August 2001 (27.08.01) |
| Name and mailing address of the ISA/ S.P.T.O<br>Facsimile No. | Authorized officer<br>Telephone No. |

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International application No.
PCT/ES 01/00159

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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Information on patent family members

International Application No
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| Patent document cited in search report | Publication date | Patent familiy member(s) | Publication date |
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| DE 19515062 | 31.10.1996 | | |
| EP 936326 | 18.08.1999 | DE 19806092 | 19.08.1999 |
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