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(54) **SUPPORT SYSTEM FOR FALSE CEILING WITH SLATS**

(57) Support system for false ceiling with slats characterized in that it comprises:

- a plurality of horizontal carriers (2) arranged along axes parallel to each other
- a plurality of elements (10) slidable along said carriers (2) and removably lockable at predetermined seats (8),

said seats (8) being aligned along a plurality of axes perpendicular to the axes of the carriers (2), each sliding element (10) being provided with hooking means (24, 26), the sliding elements (10), arranged along a same axis perpendicular to the axes of the sleepers, engaging with their hooking means (24,26) a same slat (28).

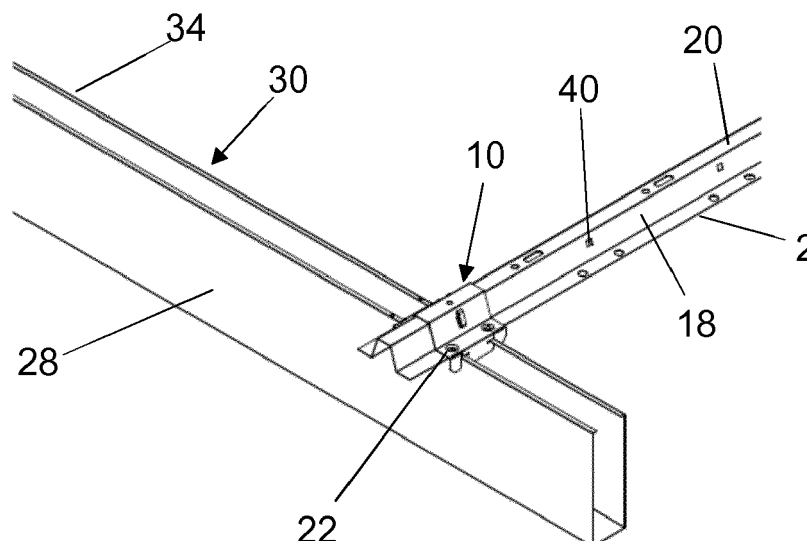


FIG. 6

Description

[0001] The present invention relates to a support system for false-ceiling staves.

[0002] Suspended ceiling systems are known consisting of a plurality of parallel vertical slats engaging horizontal sleepers secured to the ceiling by means of hangers.

[0003] Each slat is substantially constituted by a U-shaped profile with the ends of the vertical walls folded 90 ° inwards.

[0004] The object of the invention is to provide a support system for false-ceiling staves which allows inspection of the spaces above the slats without disengaging the slats from the sleepers.

[0005] These objects are achieved according to the invention with a support system for false ceilings as described in claim 1.

[0006] The present invention is further clarified hereinafter in a preferred embodiment thereof, given purely by way of a non-limiting example with reference to the accompanying drawings in which:

- Figure 1 shows a perspective view of a system of false-ceiling according to the invention,
- Figure 2 shows in the same view as in Fig. 1 with the slats moved to allow access to the part above them,
- Figure 3 shows a perspective view of the coupling element of the slats,
- Figure 4 shows it in a side view,
- Figure 5 shows a perspective view of the system for securing the slatted frame coupling element, and
- Figure 6 shows it in finished configuration.

[0007] As can be seen from the figures, the false ceiling support system according to the invention comprises a plurality of horizontal crosspieces 2 parallel to each other (four in the illustrated example) having a substantially Ω section and can be fixed to the ceiling by means of hangers 4 engaging each crosspiece in the center and at its two ends.

[0008] The horizontal wings 6 of the crosspiece 2 present a plurality of equidistant pairs of holes 8 whose function will be explained later.

[0009] The invention also comprises a sliding fastening element 10 having a cross section corresponding to that of the sleeper 2 so as to be able to rest with its oblique surface 12, the horizontal central surface 14 and the lateral wings 16 respectively on the oblique surface 18, the central surface 20 and on the wings 6 of the sleeper.

[0010] Each wing 16 of the fastening element 10 is affected by two bulges 22 whose distance corresponds to the distance between the holes 8 of each pair of wings 6.

[0011] The wings 16 of the coupling element extend in three protruding appendages 24, 26 folded at 90 ° down-

wards. The central appendix 24 has a width corresponding to the distance between the side walls 28 of a U-shaped slat 30 and is covered by notches 32 to insert and constrain the upper folded edges 34 of the side walls 28 of each slat.

[0012] The use of the device according to the invention is as follows:

first of all the crosspieces 2 are fixed to the ceiling by means of the hangers 4. Next, the fastening elements 10 are placed over the cross-pieces 2 so that the bulges 22 engage in the holes 8 provided in the wings 6 of the cross-pieces 2. To the purpose of preventing unwanted movements of the coupling elements a clip 36 is used, which simultaneously engages a hole 38 provided in the oblique surface 12 of the coupling element 10 and a hole 40 provided in the oblique surface 18 of the crosspiece.

[0013] At this point the slats 30 are inserted axially at their folded edges 34 into the notches 32 provided in the wings 16 of the coupling elements. In this configuration the accidental release of the walls of the stave is prevented by the presence of the appendices 26.

[0014] When it is necessary to carry out an inspection in the part above the slats, it is sufficient to disengage the clips 36 from the holes 38 and 40, pull the portions 26 so as to cause the disengagement of the bosses 22 from the holes 8 and allow the hooking element to slide with the slats held by it towards the ends of the sleeper.

Claims

1. Support system for false ceiling with slats **characterized in that** it comprises:

- a plurality of horizontal carriers (2) arranged along axes parallel to each other
- a plurality of elements (10) slidable along said carriers (2) and removably lockable at predetermined seats (8), said seats (8) being aligned along a plurality of axes perpendicular to the axes of the carriers (2), each sliding element (10) being provided with hooking means (24, 26), the sliding elements (10), arranged along a same axis perpendicular to the axes of the sleepers, engaging with their hooking means (24,26) a same slat (28).

2. System according to claim 1 **characterized in that** the carriers (2) and the sliding elements (10) have partially the same cross-section.

3. System according to claim 2 **characterized in that** the carriers (2) and the sliding elements (10) have a Ω cross-section

4. System according to claims 1 and 3, **characterized in that** the end wings (16) of the sliding elements (10) are provided with bosses (22) for engagement

in holes (8) provided in the wings (6) of the carrier (2).

5. System according to claims 1 and 3, **characterized in that** it also comprises means (36) for detachable engagement of a portion (12) of the sliding element (10) with the corresponding facing portion (18) of the carrier (2) to prevent the unwanted sliding of the sliding element (10). 5
6. System according to claim 5 **characterized in that** said means consist of a clip (36) which engages in two holes (38,40) provided in the portions (12,18). 10

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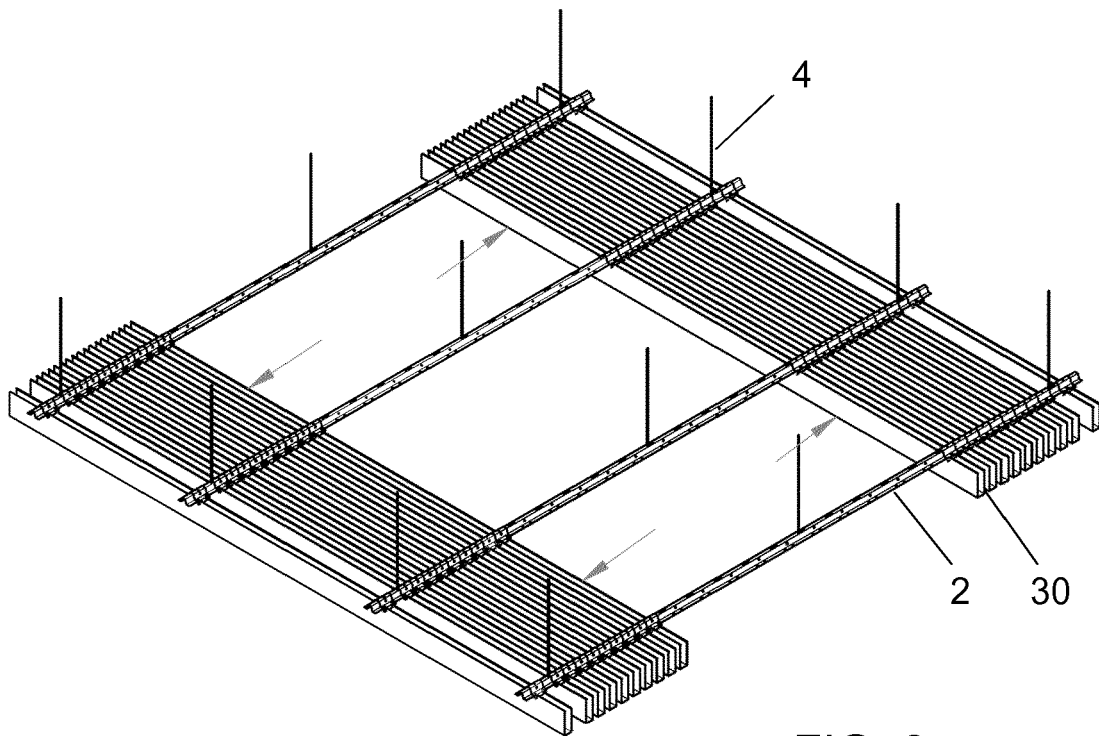
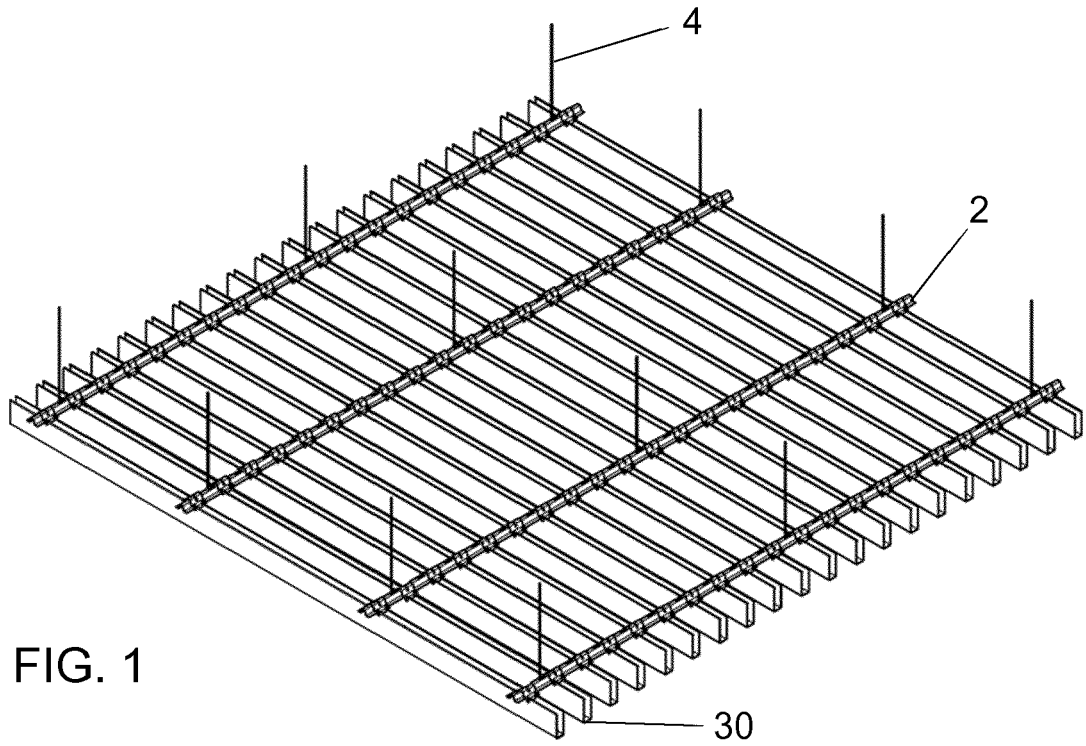
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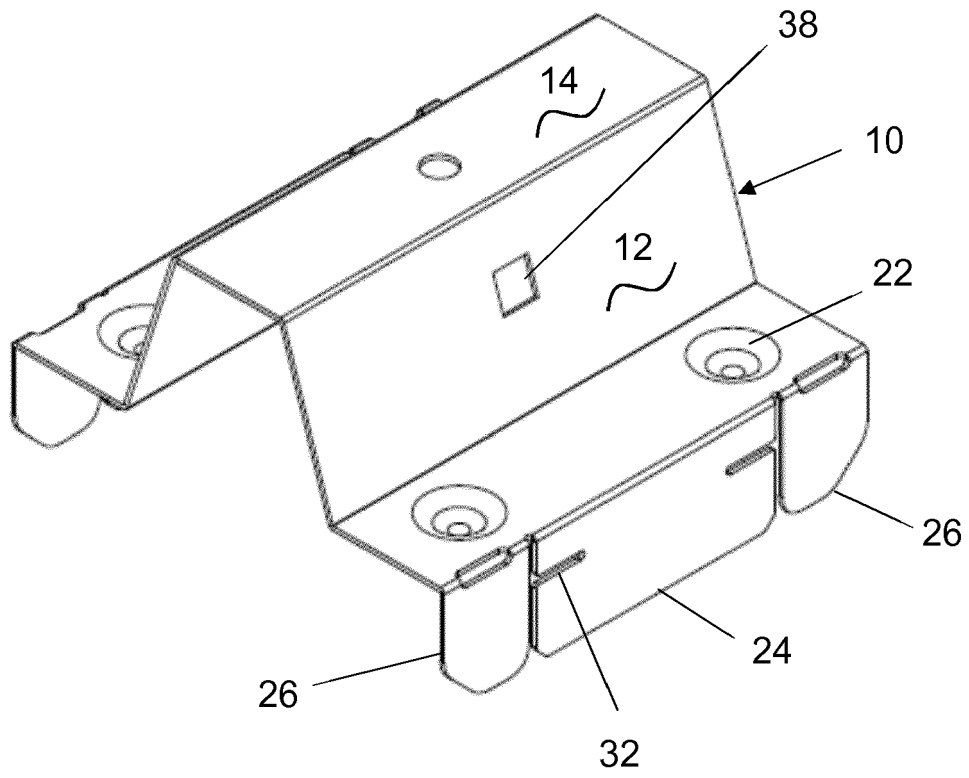


FIG. 3

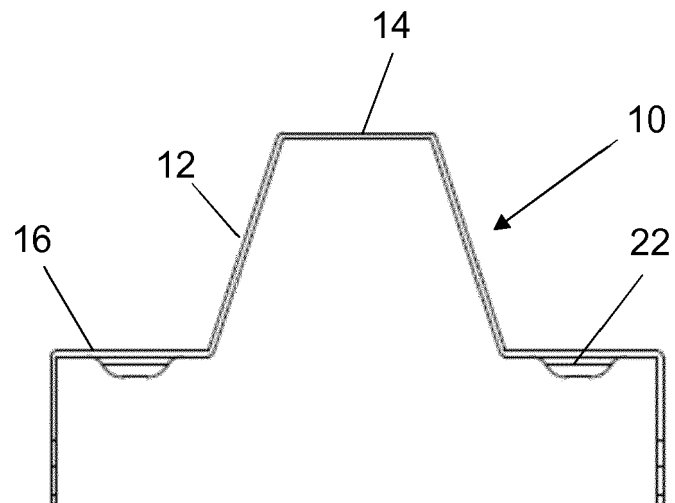


FIG. 4

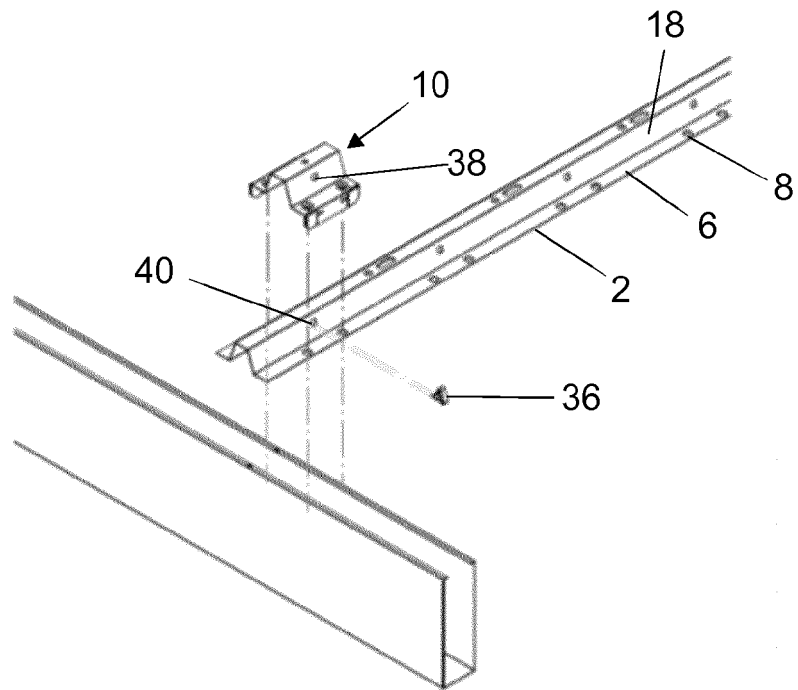


FIG. 5

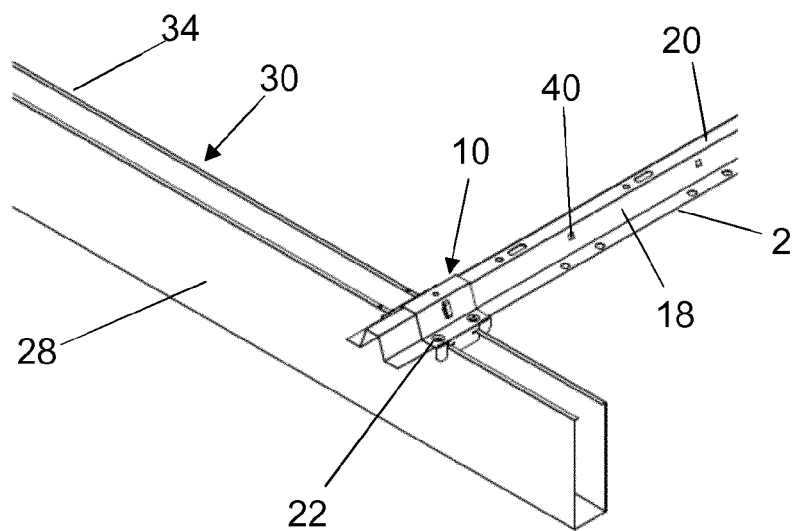


FIG. 6



EUROPEAN SEARCH REPORT

Application Number
EP 19 19 7452

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	FR 2 197 101 A1 (HEER ERWIN [DE]) 22 March 1974 (1974-03-22) * figures 3,4 * * page 9, line 9 - line 11 * -----	1-6	INV. E04B9/00 E04B9/24 E04B9/36
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			TECHNICAL FIELDS SEARCHED (IPC)
			E04B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 22 January 2020	Examiner Petrinja, Etjel
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 19 19 7452

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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