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(54) Framework joining cramp for modular shuttering.

(57) The cramp comprises a U-shaped channeled body (5) having two hinge pins (7) between its side branches (6) at end sectors thereof for two jaws (8-8') in charge of clamping the two laterally adjacent sections (1-1') of the portative frames to be joined against each other, the said jaws (8-8') being closed with the assistance of a screw (14) externally topped by a handle (15), held fast axially against the actual channeled body (5) through its inner end (16) and with the assistance of a bridge part (18) and in which plays a duly keyed nut (11) which is what actually exerts pressure on the end (10) of the jaws (8) in order for the latter to close upon one another.

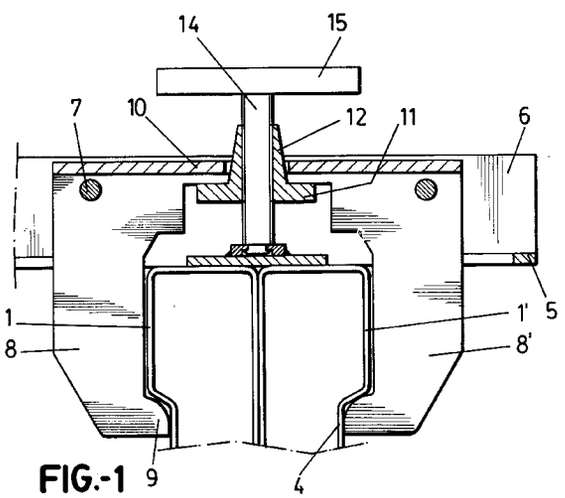

FIG.-1

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OBJECT OF THE INVENTION

The present invention relates to a cramp which has been particularly designed as a means for laterally joining two form boards or blocks, and more specifically the frames of the said boards, thereby to achieve a rigid interlock therebetween, very quickly, simply and efficiently.

BACKGROUND OF THE INVENTION

In the field of building the use of form boards rigidified by means of metallic or like portative frames has been known for some time, the frame and the board making up a modular form unit.

The applicant is actually the proprietor of Spanish utility model application number 8700015 for a modular form panel section with the which aforesaid frame is constructed.

Utility model 8800207 which also belongs to the applicant claims a different solution for this kind of sections constructed for portative frames in boards for modular forms.

Other solutions are provided in industrial models 111,944 and 114,978 belonging to the same proprietor and in respect of sections for form panel frames.

In all of them the common denominator is a tubular body rigidifying the section, having a channelling and a rib projecting from the said body, one of the faces thereof making up a notching to couple the board as such.

Naturally, these portative frames should in addition to supporting the respective boards or panels be able to be firmly and laterally fixed to each other, to make up variably sized form surfaces, in accordance with the modularity projected for this kind of boards.

DESCRIPTION OF THE INVENTION

The cramp subject of the invention has been designed and constructed to achieve a lateral attachment of portative frames firmly, rapidly, safely and efficiently.

More specifically and in order to achieve the above, the said cramp is made up of a channeled body having a U cross-section with two hinge pins between its side branches and at its end sectors, for respective symmetric jaws which are designed to drive simultaneously sideways against the sections of two adjacent portative frames, thereby to pinch or force the said jaws against the said sections with the assistance of a screw which crosses the centre of the middle branch of the channeled section and ends outside the same in a handle, which screw is mounted to rotate freely on a bridge part likewise associated to the channeled body but close to the mouth thereof, and which drives a nut that is in turn in charge of causing the said jaws to swing, to which end the jaws are somewhat L-shaped in order that one of its branches, the branch housed in the channeled body, is driven by the nut, whereas the other grips the sections to be joined.

DESCRIPTION OF THE DRAWINGS

In order to provide a fuller description and contribute to the complete understanding of the characteristics of this invention, a set of drawings is attached to the specification which, while purely illustrative and not fully comprehensive, shows the following:

Figure 1.- Is a cross-section of the assembly.

Figure 2.- Is a perspective view of one of the jaws.

PREFERRED EMBODIMENT OF THE INVENTION

In the figures it can be observed that the joining cramp subject hereof is applicable to portative frames of the kind having sections (1-1') provided with a tubular body in which a face (2) is defined for joint adaptation, and a notching (3) to support the form board as such and a side channeling (4) to drive the said joining cramp.

Now then, the joining cramp is constructed with a U-section channeled body (5) with two hinge pins (7) between its side branches (6) and at end areas thereof for two double jaws (8-8') making up the cramp as such.

More specifically, each of these jaws (8) in turn has a likewise U-section channeled configuration, of lesser width and far greater depth than the body (5) and the branches are roughly L-shaped in such a way that the said branches, actually numbered (8) are topped at their free end by inwardly offset projections (9) acting on the channeling (4) on the frame section (1), while the shorter branch (10) which points to the front and approximates the mid-point of the channeled body (5), is driven by a nut (11) which is what actually causes the ratchets (8) to swing against the sections (1), the said nut (11) preferably extending into a frustum neck (12) which passes between the jaws (8-8') and crosses the channeled body (5) through the midpoint of its middle branch and through a suitably sized hole (13), which neck (12) prevents the screw (14) which drives the nut (11) from being damaged against the edge of the said hole (13) or even against the inner end of the shorter arms (10) of the ratchets (8).

The screw (14) which crosses the channeled body (5) to be topped at its outer end by a manually driven handle (15) is attached through its lower end (16) and with freedom of rotation allowed by a socket (17) to a bridge part (18) transversely positioned in the channeled body (5) flush with the mouth thereof defined by the side branches (6) so that this bridge part of the screw (14) prevents its axial displacement, though it is free to rotate about itself, and in which rotating movement it determines the longitudinal dis-

placement of the nut (11) which shall be suitably guided to prevent its rotating movement and hence its accompanying the screw (14) in turning without being longitudinally displaced.

It follows from the above construction that in a limiting position of the nut (11) approaching the bridge part (18) the ratchets (8-8') may be considerably separated, the span being sufficient to allow their being coupled to the pair of sections (1-1') of the portative frames to join, and from this position as the nut (11) moves towards the bottom of the channeled body (5), when the screw (14) turns and more specifically when the handle (15) is manually driven, the ratchets (8-8') will gradually close on one another to reach a final position clamping the sections (1-1'), as shown in figure 2, in order for the said sections to be stiffened to each other with a rigidity almost equivalent to that of a monopiece assembly.

Claims

1.- A cramp for joining portative frames for modular form boards, specifically for laterally joining the sections of two laterally adjacent frames, characterised in comprising a U-shaped channeled body (5) provided with two hinge pins (6) between its side branches and at end positions, for respective double and generally L-shaped jaws (8-8'), which jaws are provided at their ends with an inward orthogonal offset (9) through which they fall into the side outer channelings (4) on the sections (1-1') to be joined, while through their central channeled body (5) they simultaneously receive the closing means of one ratchet upon the other.

2.- A cramp for joining portative frames for modular form boards, as in claim 1, characterised in that the said closing means of the ratchets (8-8') comprise a nut (11) duly keyed to prevent its rotation, for instance with a rectangular configuration and fitting tightly between the side branches (6) of the channeled body (5), which nut is supported by the shorter branches (10) of the ratchets (8) and complemented by a screw (14) crossing the mid-point of the middle branch of the channeled body (5) and is externally topped by a handle (15) while the inner end of such screw (14) is associated with freedom of rotation to a bridge part (18) established centrally flush with the mouth of the channeled body (5) and which holds the said screw (14) firmly longitudinally, allowing it to rotate freely, so that the said rotation causes the nut to move longitudinally which will in a particular direction in turn cause the ratchets (8-8') making up the cramp as such to swing down against the pair of sections (4).

3.- A cramp for joining portative frames for modular form boards, as in the above claims, characterised in that the nut (11) extends into a long neck (12) passing through the facing ends of the minor branches (10) of the ratchets (8-8') and likewise passing through a hole (13) in the middle branch of the channeled body (5), which neck (12) protects the screw (14) in passing through the said elements.

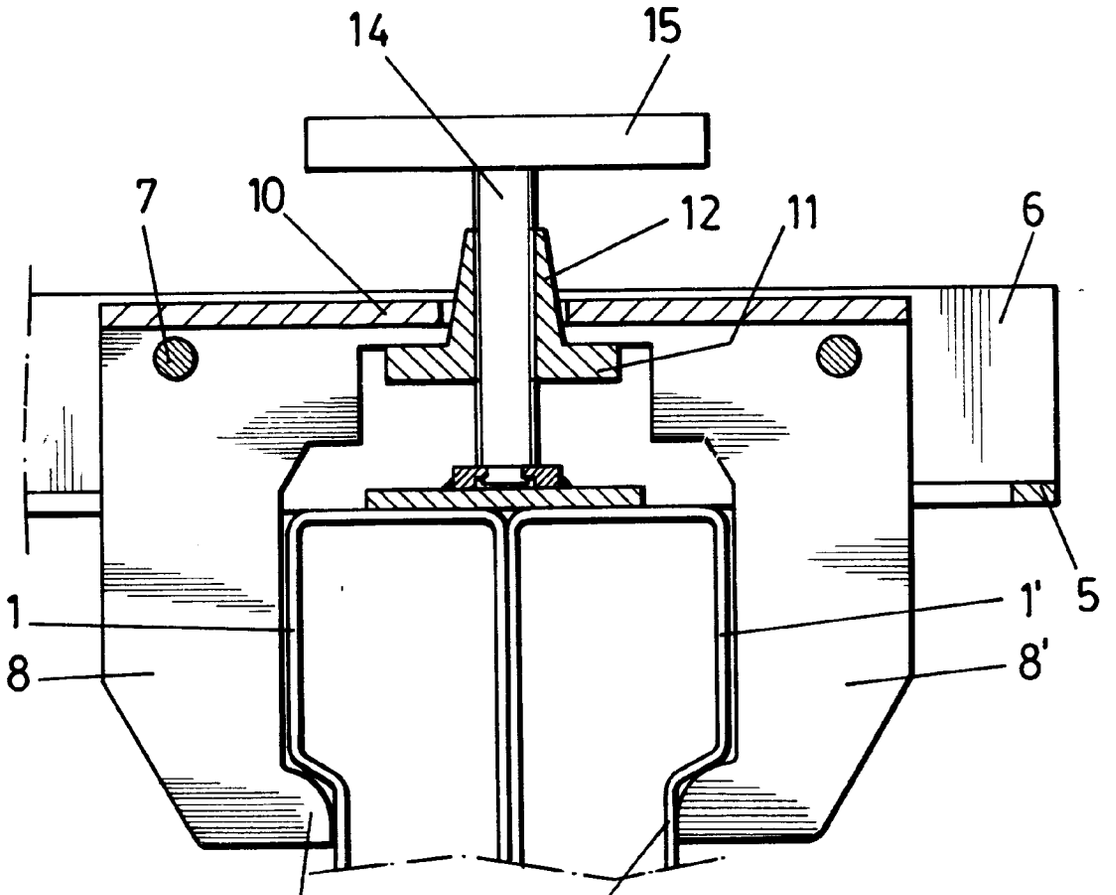

FIG.-1

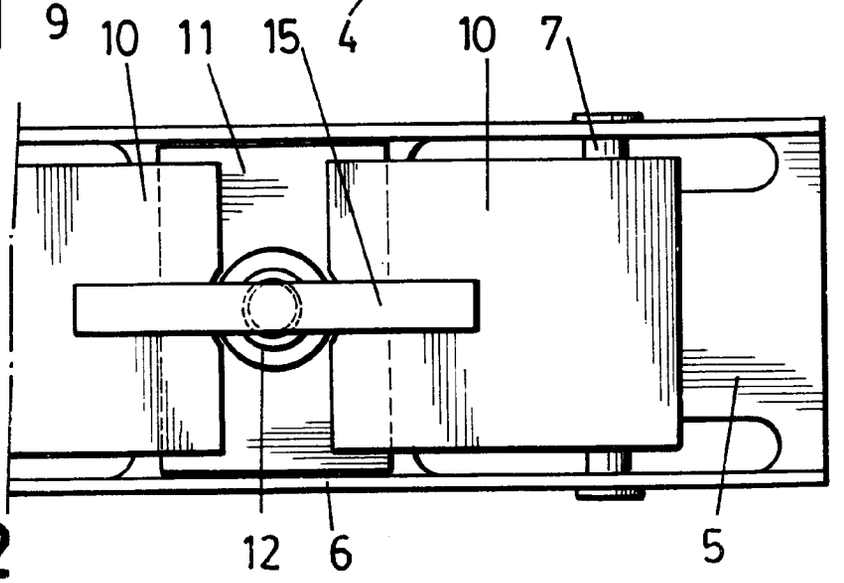

FIG.-2

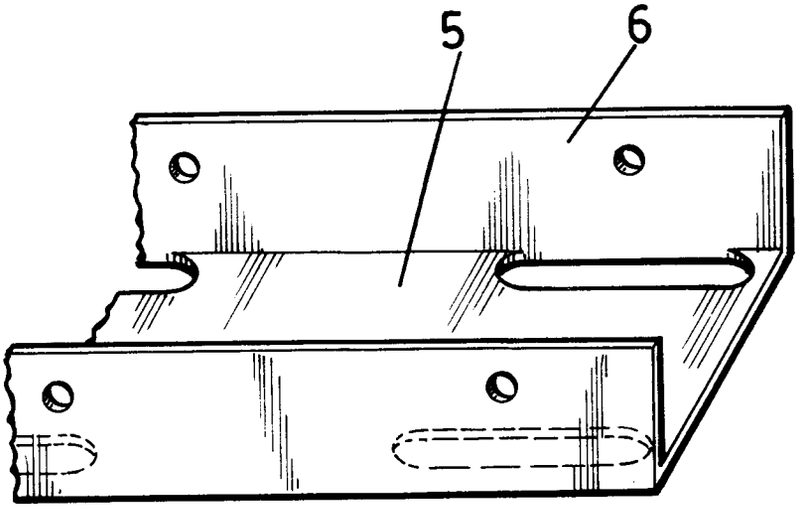

FIG.-3

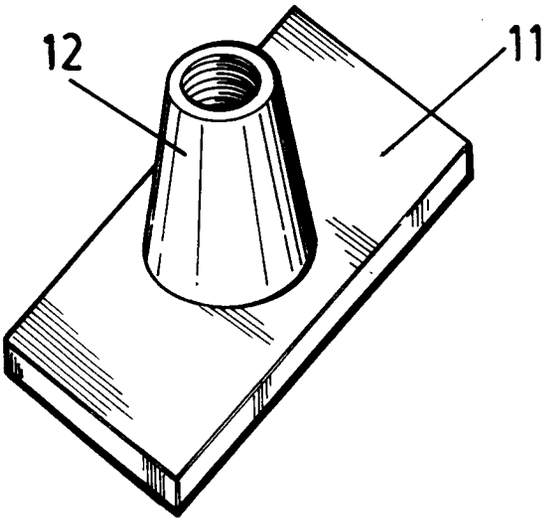

FIG.-4

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EUROPEAN SEARCH REPORT

Application Number
EP 93 50 0040

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)
X	EP-A-0 201 887 (HÜNNEBECK) * page 12 - page 16; claims; figures *	1,2	E04G17/04
X A	EP-A-0 369 197 (MAIER) * claims; figures *	1 2	
A	GB-A-2 210 131 (BELEGGINGSMAATSCHAPPIJ BOUWMATERIEEL EUROPA)		
A	DE-A-3 823 763 (EMIL STEIDLE)		
A	DE-A-3 148 217 (PERI-WERK ARTUR SCHWÖRER)		

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

E04G

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	01 JULY 1993	VIJVERMAN W.C.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
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