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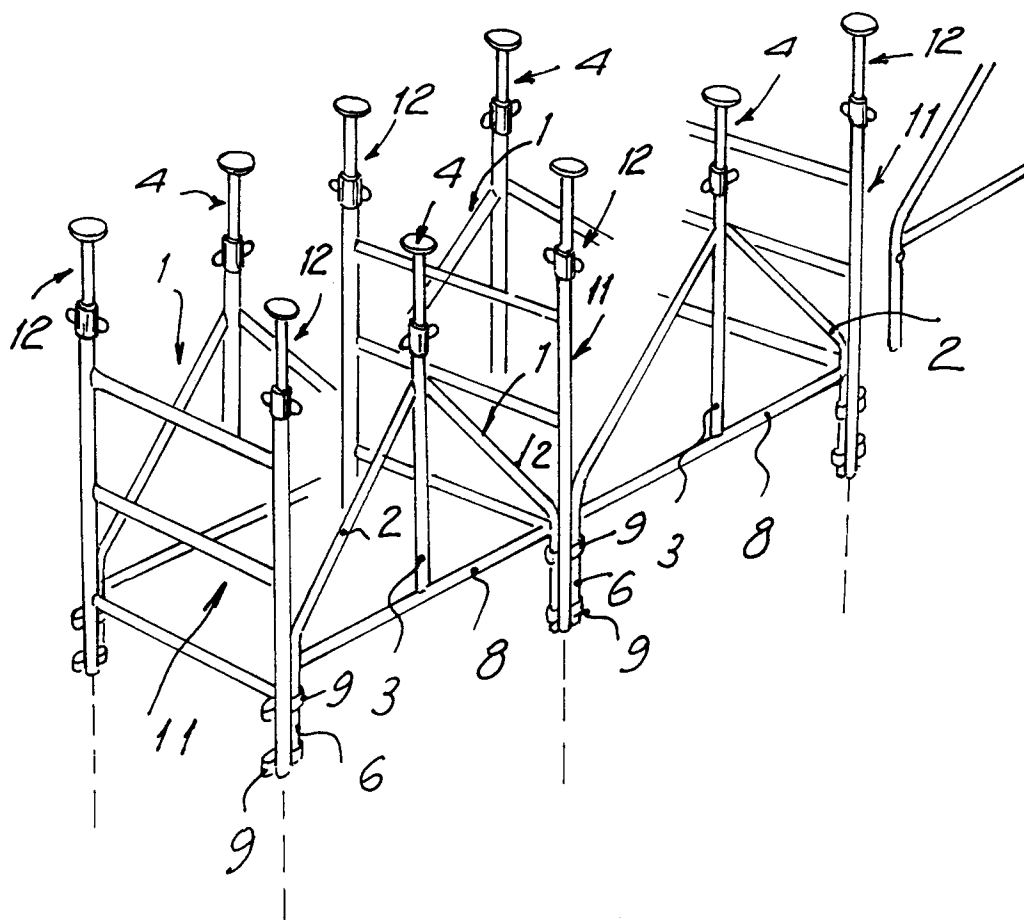
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Support structure of adjustable height.

It comprises a plurality of structural elements (11) of adjustable height, which comprise two uprights (10) joined together by at least one crosspiece (8), and at least one upper support (4) of adjustable height, and is characterised in that it further comprises a structural element (1) in the form of a triangular arch, which includes one single crosspiece (8), the two uprights (6) of said structural element extending beyond the crosspiece (8) forming two arms (2) which converge forming between them an apex or vertex in which the support (4) of variable height is connected.

Said structural element (1) in the form of a triangular arch comprises a central column (3) which is fixed between said vertex and the crosspiece (8).

FIG. 4



The present invention refers to a support structure of adjustable height, particularly appropriate for use in the support of scaffolding and other similar applications.

BACKGROUND TO THE INVENTION

There are known metallic structures for forming scaffolding which basically consist, like a ladder, of two components, which are pairs of vertical uprights joined one to the other by crosspieces at differing heights. These components are connected together using braces. It is normal practice that the components located in the upper part of the structure are provided with some means for adjusting their height.

Practice has demonstrated that these structures have certain disadvantages in relation to the said means which allow the adjustment of the upper part of the structure, and which are normally required to support a platform. In fact, when the weight to be supported by the structure is considerable, it is necessary to increase the number of components used with the consequent disadvantages that this entails in relation to the cost of the structure and the number of operations required for erecting and dismantling it.

It is in order to simplify this type of structure, and thus reduce the number of components required without diminishing its capacity for resistance, that the structure which is the object of this invention has been devised.

DESCRIPTION OF THE INVENTION

Said structure is of the type composed by a plurality of structural elements of adjustable height, which elements comprise two uprights joined together by at least one crosspiece, and which further comprises at least one upper support of adjustable height, and it is characterised in that it includes, in addition to the conventional structural elements formed by two uprights and a plurality of crosspieces, a structural element in the form of a triangular arch, which includes one single crosspiece, the two uprights of said structural element extending beyond the crosspiece forming two arms which converge forming between them an apex or vertex in which the support of variable height is connected.

Advantageously, the structural element in the form of a triangular arch comprises a central column which is fixed between said vertex and the crosspiece.

Additionally the structure includes some sleeves fixed to the uprights of a conventional structure, in which are attached the vertical uprights of the bar bent in the form of a triangular arch.

BRIEF DESCRIPTION OF THE DRAWINGS

For an improved understanding of what is described in the present outline, it is accompanied by a number of drawings in which, by way of example only, there is shown a practical case of a possible embodiment of the structure.

In said drawings, figure 1 is a view in frontal elevation of the structural element in the form of a triangular arch; figure 2 is a view in frontal elevation of a conventional structural element; figure 3 is an enlarged detail in perspective showing the coupling between the structural element in the form of a triangular arch and the conventional structural element; and figure 4 is a perspective view of an example of the assembly of the structure in question.

DESCRIPTION OF A PREFERRED EMBODIMENT

The structural element -1- in the form of a triangular arch comprises two inclined portions -2- converging in an apex -14- next to the upper end of a central bar -3-, provided with a support -4- of adjustable height, of a conventional type.

The portions -2- extend into lower elbow bends -5- from which are formed two uprights -6- of small height, these struts -6- being provided with a shoulder or stop -7- whose purpose will be outlined below.

The uprights -6- are connected together by an horizontal crosspiece -8- whose central part is joined to the lower end of the central bar -3-.

The structure is completed by supporting rings or lateral collars -9- joined to some uprights -10- of structures of general reference -11-, of a known type, provided at the upper ends with conventional supports -12- of adjustable height.

In said structural elements -11-, the uprights -6- are joined together by crosspieces -13-.

From everything which has so far been described it is obvious that the arch shaped structural element -1-, is intended to link the upper part of conventional structural elements -11- (figure 4), this connection being achieved by introducing the uprights -6- in the supporting rings -9- as far as the stop -7-. In this way, between the supports of adjustable height -12- of the conventional structural elements -11- are positioned the additional intermediate supports -4- of the structural elements -1-.

Thanks to this additional structural element, there is an increase in the support points for the assembly and a more equal distribution is obtained of the forces which act on the general structure, which might be, for example, a scaffold, since the said forces are distributed through the inclined portions -2- and from these pass to the uprights -10- of the structures -11-.

In addition to increasing the points of support of the assembly of interconnected structural elements, structural element -1- enables the number of conven-

tional structural elements -11- to be reduced.

The described structural element in the form of a triangular arch may be used as one component among others in support structures for formwork, with the possibility of removing it from the assembly once the first stage of hardening of the concrete has taken place, and in this way made available for further use in another structure.

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Claims

1. A support structure of adjustable height which is composed by a plurality of structural elements of adjustable height, which elements comprise two uprights joined together by at least one crosspiece, and further comprises at least one upper support of adjustable height, characterised in that it includes, in addition to the conventional structural elements (11) formed by two uprights (10) and a plurality of crosspieces (13), a structural element (1) in the form of a triangular arch, which includes one single crosspiece (8), the two uprights (6) of said structural element extending beyond the crosspiece (8) forming two arms (2) which converge forming between them an apex or vertex (14) in which the support (4) of variable height is connected. 15 20 25
2. A support structure according to claim 1, characterised in that the structural element (1) in the form of a triangular arch comprises a central column (3) which is fixed between said vertex (14) and the crosspiece (8). 30 35
3. A support structure according to claim 1, characterised in that it comprises supporting rings (9) which are fixed to the uprights of the conventional structure (11), into which supporting rings the uprights of the structural element (1) in the form of a triangular arch are coupled. 40 45 50 55

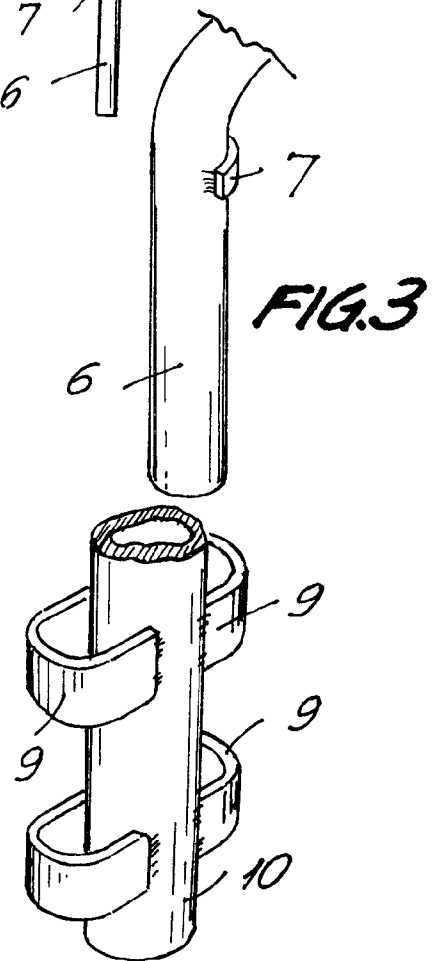
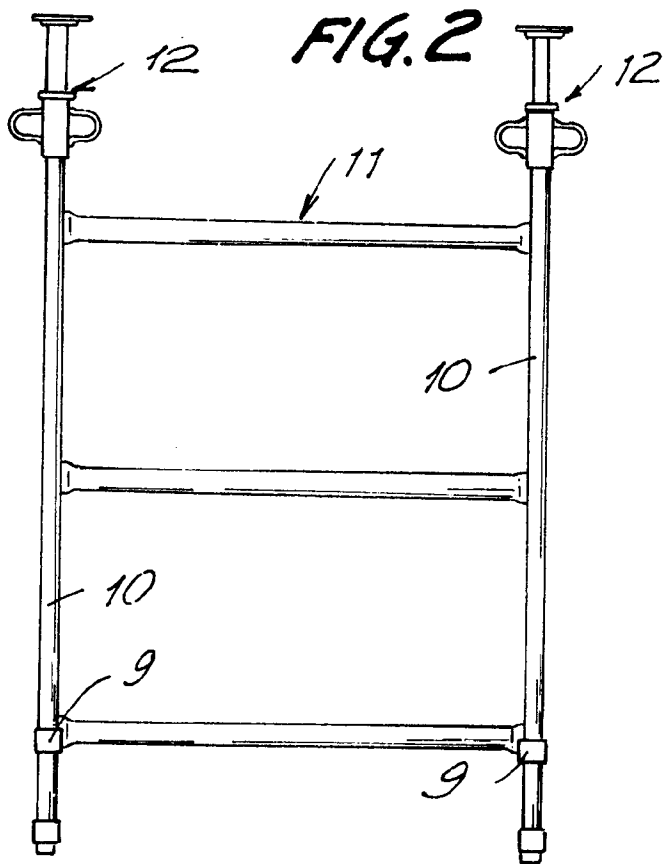
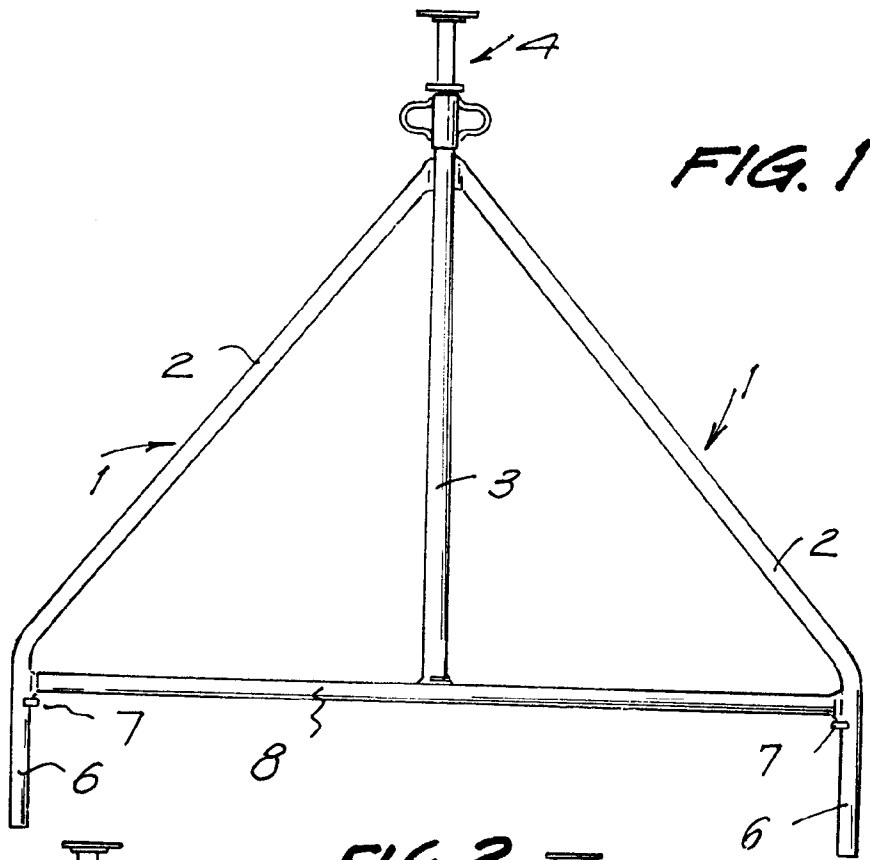
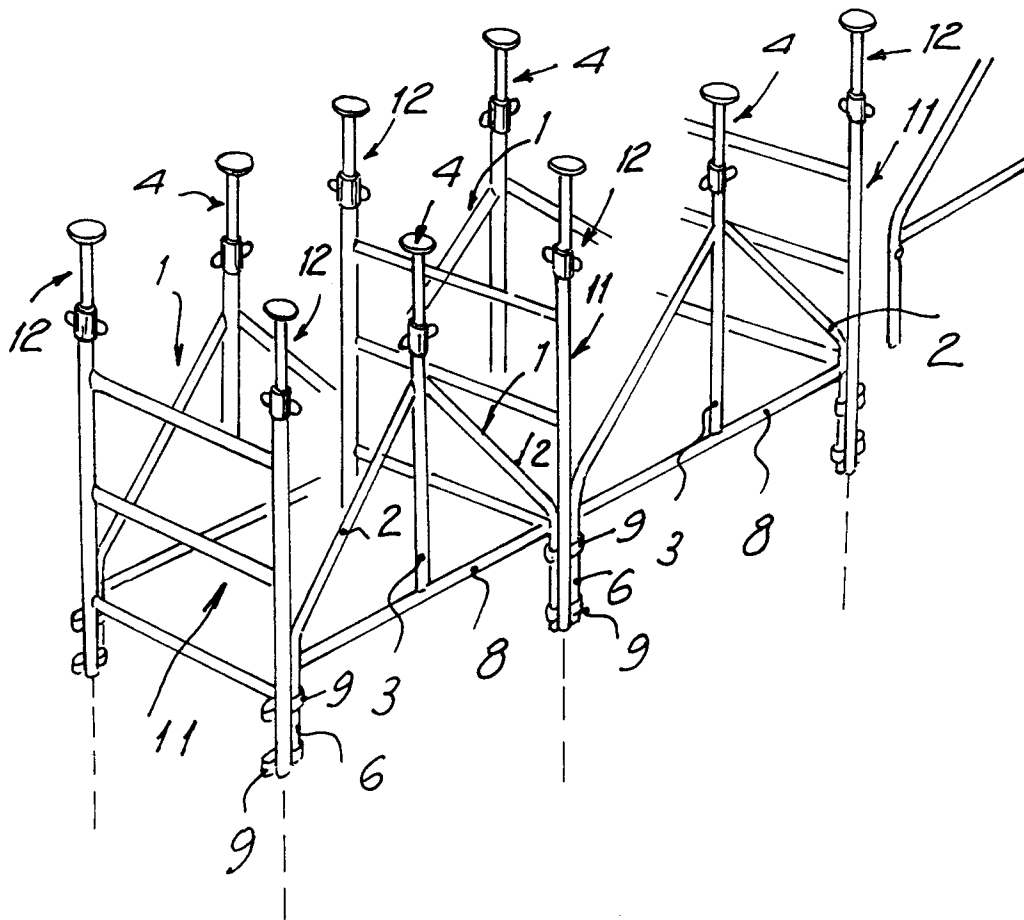


FIG. 4





European Patent
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EUROPEAN SEARCH REPORT

Application Number

EP 91 50 0072

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)
A	FR-A-2 153 591 (SOC. NOUV. DES ECHAFAUDAGES TUBULAIRES MILLS) ---		E04G11/48 E04G1/14
A	GB-A-1 534 870 (KWIIFORM LTD) -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			E04G E01D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 09 OCTOBER 1991	Examiner 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 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 I : document cited for other reasons & : member of the same patent family, corresponding document			

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