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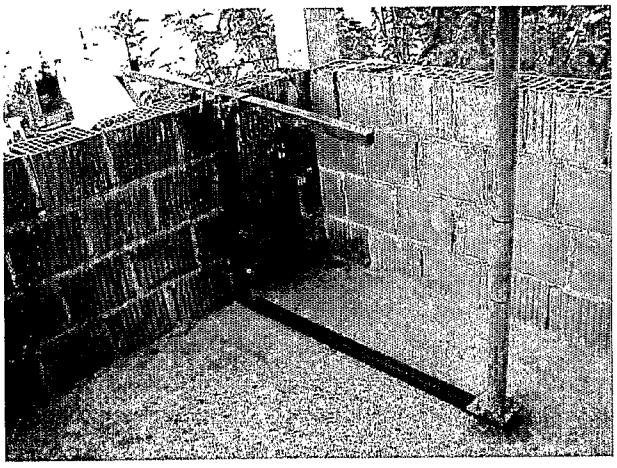
(54) Title: MOBILE SCAFFOLD FOR WORKING AT HEIGHTS



(57) Abstract: The mobile scaffold for working at heights consists of a ramp (1) with a vertical abutment located at its front and provided with a bolt (6) adjusting the distance between the outer wall of the building and the ramp. On the ramp there is mounted a board or some other working surf ace. A distance regulator (7) is used to connect the different scaffold's parts and is used for adjusting the height and width of the scaffold according to the wall opening, e. g. a window. A fixing device (10) is provided with its parts at a 90 degrees angle so that with its vertical part it is moved closer to the window from one side, and on the other side with its horizontal part it is placed on the floor with a supporting beam (11) which with its other end exerts pressure on the ceiling by means of a wooden plank. All of the above parts are in pairs except for the board.

MOBILE SCAFFOLD FOR WORKING AT HEIGHTS

1) TECHNICAL FIELD OF THE INVENTION

This invention relates to a mobile scaffold which is placed on buildings and is not related to the mounting of typical scaffolds which are mounted from the bottom of a building (construction site), but it is mounted directly at the site – floor where the works are to be conducted. According to the international classification (MKP) it has been classified as: _____mobile scaffold for mounting on buildings

2) TECHNICAL PROBLEM

For years, one of the biggest problems with working at heights was that the most of the jobs, which are not conducted indoors, had to be conducted on scaffolds that are mounted around the building. This involves mounting the scaffolds from the bottom of the building/facility up to the location where the work is being conducted. In most cases works involve repairs (gutters, lightning rods etc.), mounting, dismounting, cleaning, painting etc. That can be a real problem if the building is tall and the investor has to raise the scaffold to the very top. This automatically generates extra costs for renting the scaffold, the number of workers that mount and dismantle it, transport of parts for the scaffold, damage to the façade, additional permits for raising scaffolds in urban areas and city centres, additional control of traffic and pedestrian areas, etc.

3) EQUIPMENT CONDITION

Until now many solutions that have not met basic technical and safety demands have been used. Those solutions were temporary, cumbersome and impractical, and demanded involvement of a large number of manpower and equipment. If a typical scaffold was to be used, it had to be mounted from the bottom of the building up to the worksite. Mostly it was a 'reverse' construction of the typical scaffold which was assembled (set up) on site. That assembly was slow, with cumbersome construction and technically untested. If there was work to be done at the level of one flat, all furniture had to be removed and still there was a danger of damaging and scratching ceilings, walls and floors. Also, all parts of old scaffolds, such as pipes and connectors, are long so the lift in that particular building cannot be used due to the length of those parts. All of this adds extra cost to the work due to time spent on the site.

4) PRESENTATION OF INVENTION'S PURPOSE

The primary aim of the invention is: to improve scaffolds used for work at heights, to increase their mobility and the time to mount and dismantle them, decrease the time spent on the construction site from the time the scaffold starts to be raised, time to conduct the work, and the time to dismantle the scaffold, and to increase the safety of the scaffold, its load capacity and ease of handling. The secondary goal is the decrease of scaffold handling expenses through decreased time during which the scaffold is used in terms of mounting, usage and dismantling. It also eliminates the possibility of damage to the ceilings, floors and walls in facilities such as offices, flats etc.

5) BRIEF DESCRIPTION OF THE SKETCHES

The attached sketches that are a part of the invention's description illustrate so far the best way to construct the invention and help explain invention's basic principles.
Pic. 1 is the body plan of the parts of prefabricated scaffold for work at heights.
Pic. 2 is the sketch of mounting the prefabricated scaffold for working at heights.
Pic. 3 is the spatial sketch of the prefabricated scaffold for working at heights.
Pic. 4a and 4b is a photo of the mounted prefabricated scaffold for working at heights.
Pic. 5 is a photo of the parts of the prefabricated scaffold for working at heights.
Pic. 6a and 6b is a photo of the way boards are mounted on the prefabricated scaffold for working at heights.
Pic. 7 is a photo of the position of bolts for the distance regulation of the prefabricated scaffold for working at heights from a wall.
Pic. 8 is a photo of the distance regulator of the prefabricated scaffold for working at heights.
Pic, 9 is a photo of the way the parts of the prefabricated scaffold for working at heights are fixed.
Pic. 10 is a photo of the way the parts of the prefabricated scaffold for working at heights are fixed.
Pic. 11a and 11b is a photo of the way the metal support beam is fixed at the end of the prefabricated scaffold for working at heights.
Pic. 12 is a photo of the way the ceiling reinforcing device of the prefabricated scaffold for working at heights is set up.

6) DETAILED DESCRIPTION OF AT LEAST ONE WAY TO MANUFACTURE THE INVETION

The prefabricated scaffold for working at heights ***pictures 4a and 4b*** is made of metal, and it is conceived in a way that parts of different dimensions retract one into the other, as on a telescope. It is made up of 3 basic parts ***picture 5.***
The first part is the **ramp** used to exit outside the building and mount the work and walking board **(1).** It is strengthened with an abutment **(2).** The work and walking board is fixed with a metal pipe **(3)** which has two or more drill holes through which goes a bolt **(4)** which is fixed into the ramp and tightened by a screw **(5)** ***picture 6.*** At the vertical part which goes out of the ramp at 90 degrees there is a bolt **(6)** which is used to adjust the distance from the surface (wall) in order to level the scaffold ***picture 7.*** In that way we can also regulate the distance of the window sill and frame from the wall. On the ramp we mount the vertical **distance regulator (7a and 7b),** which is wider than the ramp elements ***picture 8*** and the fixing device. Its inner diameter is larger that the ramp and fixing device outer diameters and its purpose is to join all the elements of the scaffold. At the same time it offers the possibility to regulate the spacing of the thickness of the wall as well as the height of the lower edge of the opening in the wall (window) from the floor. It has double bolts **(8 and 9)** ***picture 9 and 10,*** which are used fix the scaffold when the height from the surface and the width of the wall is adjusted. Inside the vertical regulator we insert the **fixing device (10)** which is intended to hold the support beam with bolts **(11)** ***picture 11*** and it works as a lever. On it we put the supporting beam

and when we turn its middle section its ends expand and create a force which is exerted on the ceiling and the floor at the same time. At its other end we put a plank which ensures that the support beam does not move vertically.

7) IMPLEMENTATION OF THE INVENTION

In that way the invention becomes a practical, lasting, useful and safe tool that can be manufactured affordably and which involves important improvements compared to the previous devices of this kind.
Experts will find it obvious that certain adjustments and changes on the mobile scaffold for working at heights can be made in relation to this invention without abandoning the scale and the essence of the invention.

PATENT CLAIMS

1. The mobile scaffold for working at heights which consists of, **indicated by that,** the ramp, distance regulator, fixing device and the ceiling reinforcing device,

2. The mobile scaffold for working at heights, according to the Request 1, the ramp has on its one side mounted, **indicated by that,** nuts for bolts, which fix the lateral metal pipe and between them we place a board,

3. The mobile scaffold for working at heights, according to the Request 1, on which from the bottom side we place the abutment at 90 degrees on which we mount, **indicated by that,** a bolt used to regulate the distance of the scaffolding parts from the wall,

4. The mobile scaffold for working at heights, according to the Request 1, at other end of the ramp opposite to the side where we place the board, we place, wider part over the narrower, **indicated by that,** the distance regulator which has wider inner width from the outside width of the ramp on which they are located,

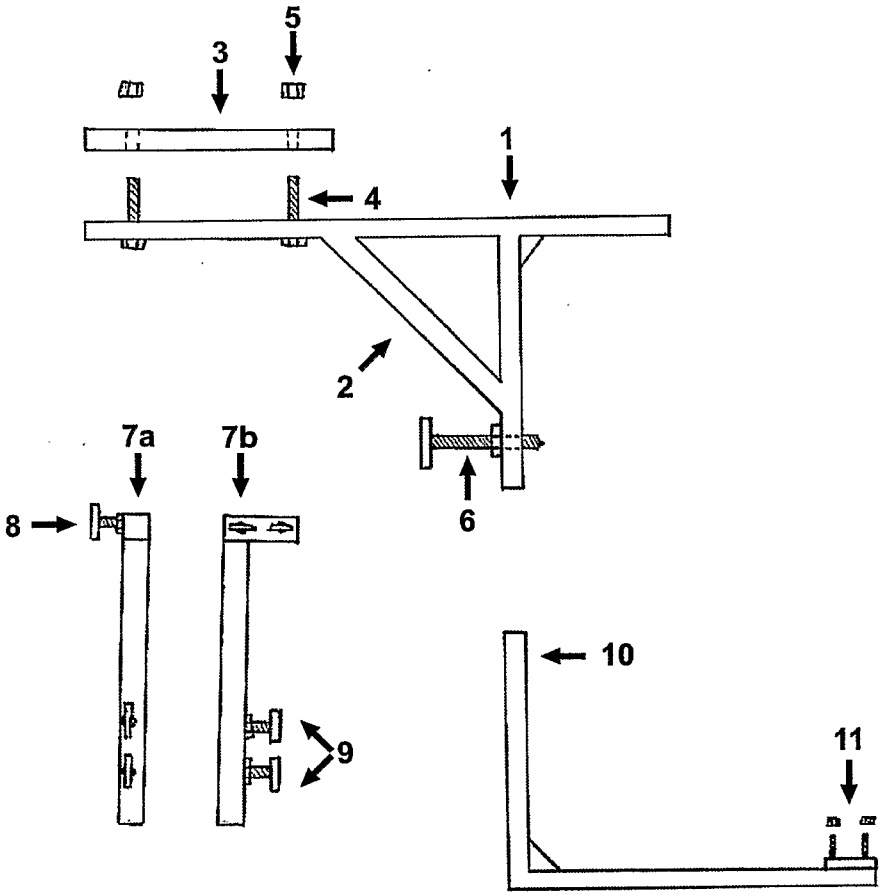
5. The mobile scaffold for working at heights, according to the Request 4, **indicated by that,** bolts that are used for fixing the narrower part of the ramp with the wider part of the distance regulator by tightening them,

6. The mobile scaffold for working at heights, according to the Request 5, as well as for fixing, **indicated by that,** the fixing device which is constructed so that it is inserted into the distance regulator and fixed in the previously explained way with double bolts which go through the distance regulator and make the leverage on the fixing device,

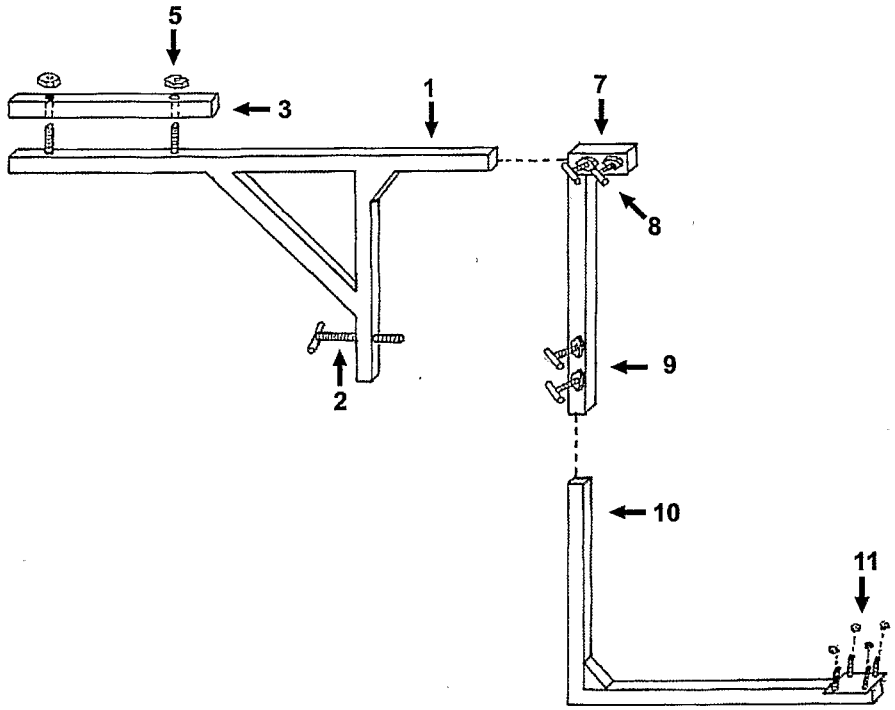
7. The mobile scaffold for working at heights, according to the Request 6, the other part of the fixing device is, **indicated by that,** at 90 degrees angle placed on the distance regulator,

8. The mobile scaffold for working at heights, according to the Request 7, and which one end, **indicated by that,** has on it a plate in which there are bolts on which we mount the metal ceiling reinforcing device with its one end from one side,

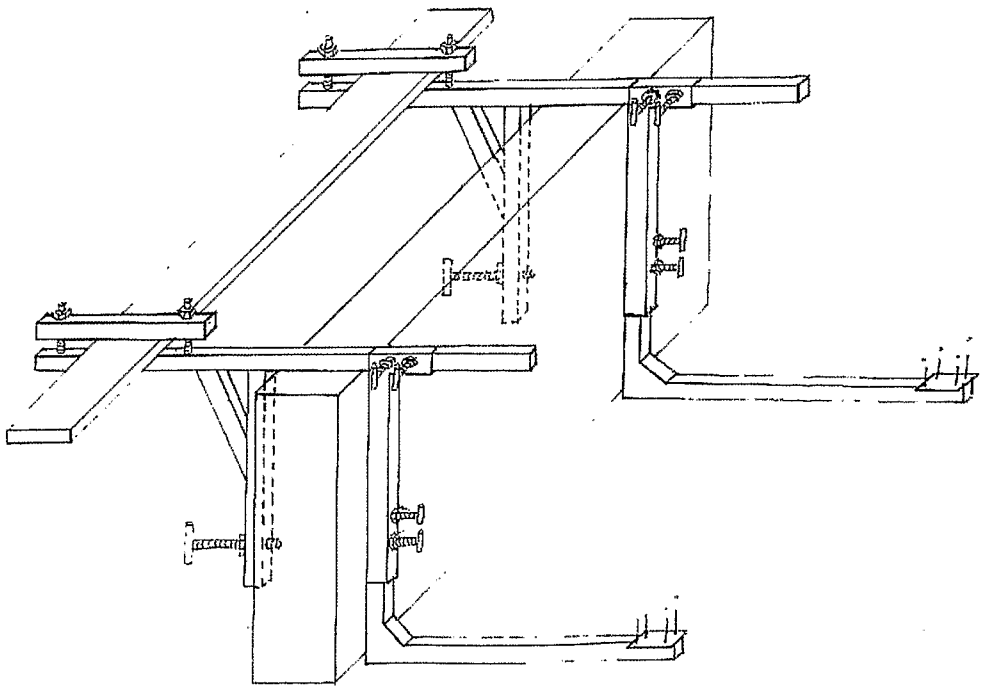
9. The mobile scaffold for working at heights, according to the Request 8, and on its other end, **indicated by that,** there is a mounted plank which is placed vertically on the ceiling and used to relieve the pressure from only one point as well as to give vertical security so that the reinforcing device would not move.



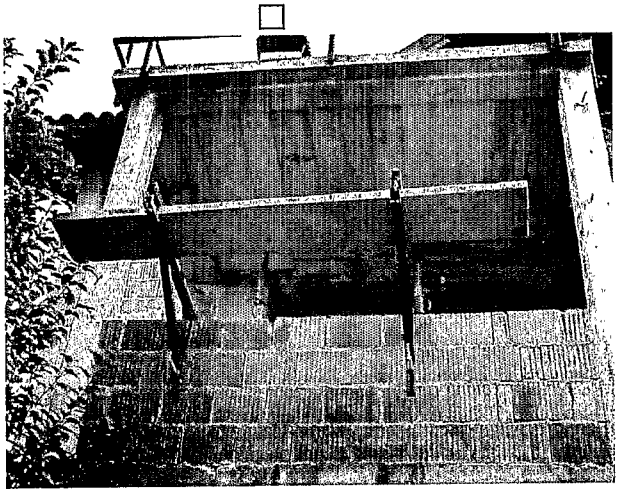
Picture 1

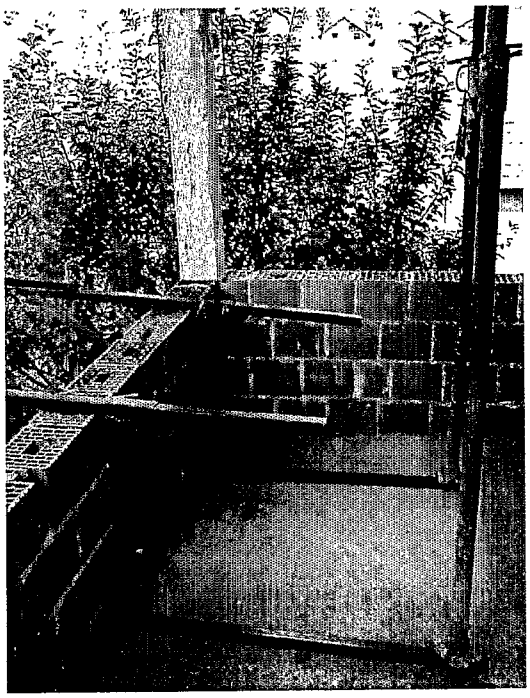


Picture 2

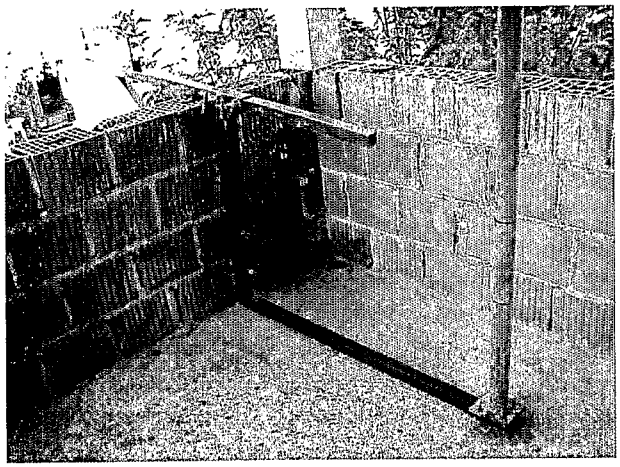


Picture 3

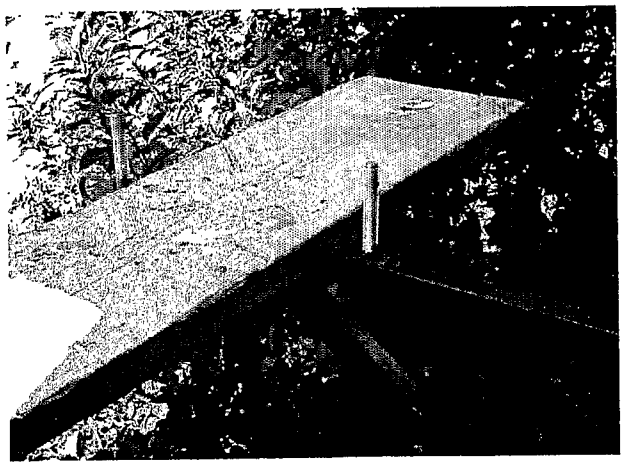


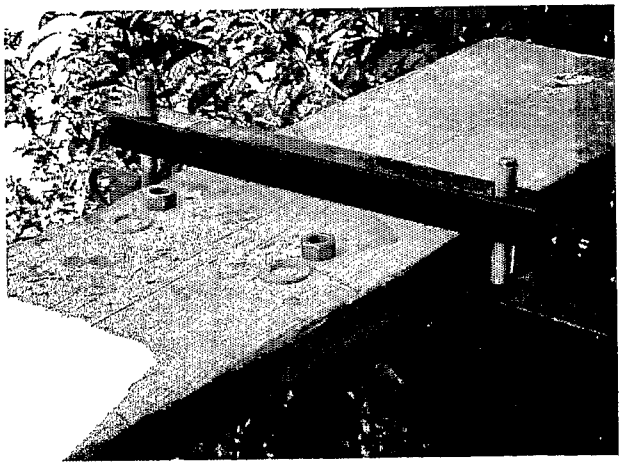


Picture 4a and 4b

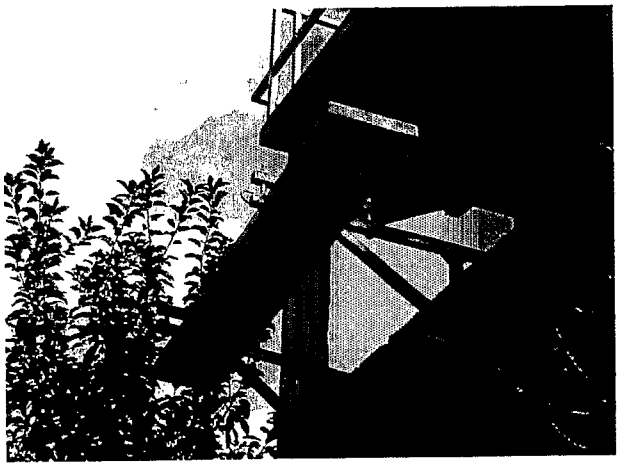


Picture 5



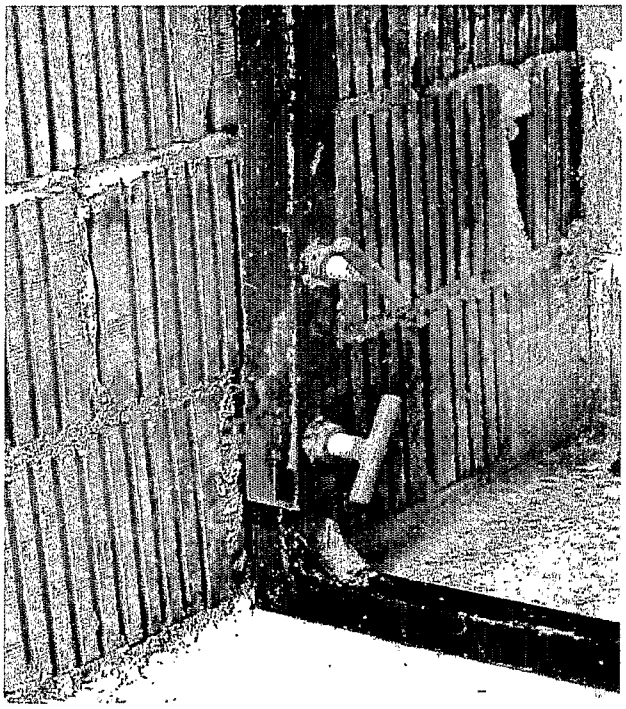


Picture 6a and 6b

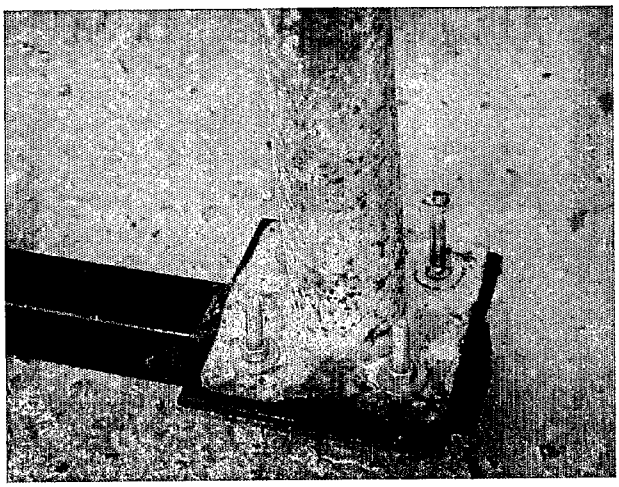


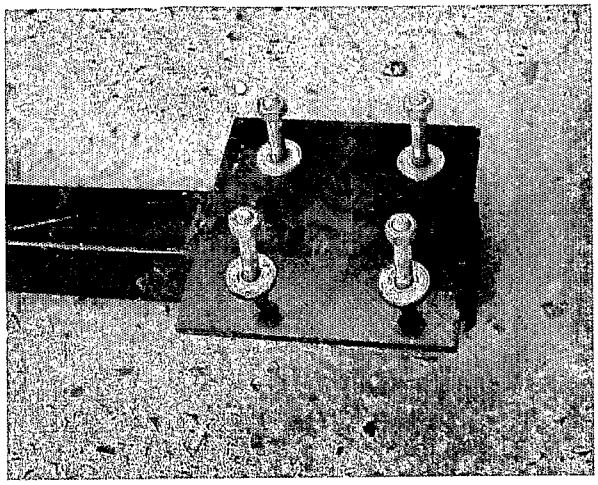
Picture 7

Picture 8

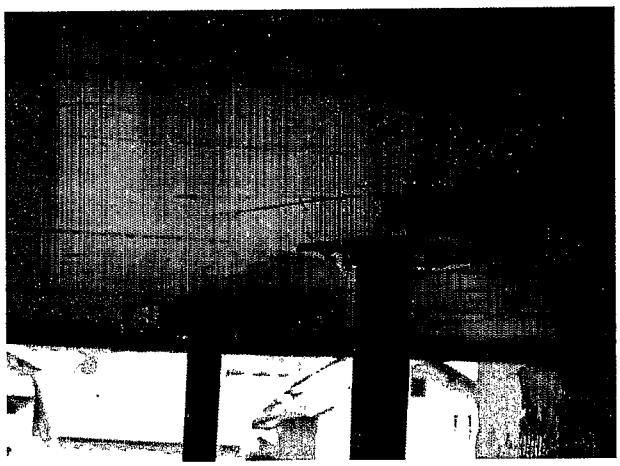


Picture 9 and 10





Picture 11a and 11b



Picture 12

INTERNATIONAL SEARCH REPORT

International application No
PCT/BA2007/000011

A. CLASSIFICATION OF SUBJECT MATTER
INV. E04G3/18

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)
E04G

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

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	DE 30 41 204 A1 (FROHN JOSEF) 9 June 1982 (1982-06-09) the whole document	1-3,6-9 4,5
X	BE 898 673 A1 (HEINDRICHS JEAN) 2 May 1984 (1984-05-02) the whole document	1-5,9
Y A	FR 2 881 450 A (THEVENIN SA SOC PAR ACTIONS SI [FR]) 4 August 2006 (2006-08-04) abstract; figures 1-4	4,5 1-3,6-9
A	GB 2 090 316 A (ARTINGSTALL STANLEY; FRALEY JOHN) 7 July 1982 (1982-07-07) abstract; figures 1-3	1-9

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
20 March 2008	03/04/2008

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Scharl, Willibald

INTERNATIONAL SEARCH REPORT

International application No
PCT/BA2007/000011

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2 334 290 A (COCKER PETER [GB]) 18 August 1999 (1999-08-18) the whole document	1-9
A	US 3 679 026 A (HANSEN ROBERT N ET AL) 25 July 1972 (1972-07-25) abstract; figure 2	1-9
A	GB 2 347 453 A (BLAIN BERNARD CRAWFORD ROBERT [GB]; BLAIN ELIZABETH OLIVE [GB]) 6 September 2000 (2000-09-06) abstract; figures 4-9	1-9

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/BA2007/000011

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