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(54) **Casting mould device**

(57) A casting mould device for casting concrete and similar, e.g. base plates, walls, columns, recesses and similar, characterized by comprising a number of transverse supports (3) with essentially triangular shape with a post (4) which is connected to a base part (5), and preferably a force transferring brace part (6) extending between the post and the base part, the posts of the

transverse supports carrying a mould space delimiting element, preferably with the aid of a number of support beams (1) which are fastened to the transverse supports, said base parts transferring the mould pressure exerted on the mould space delimiting element in the casting operation, onto a base against which the base parts apply.

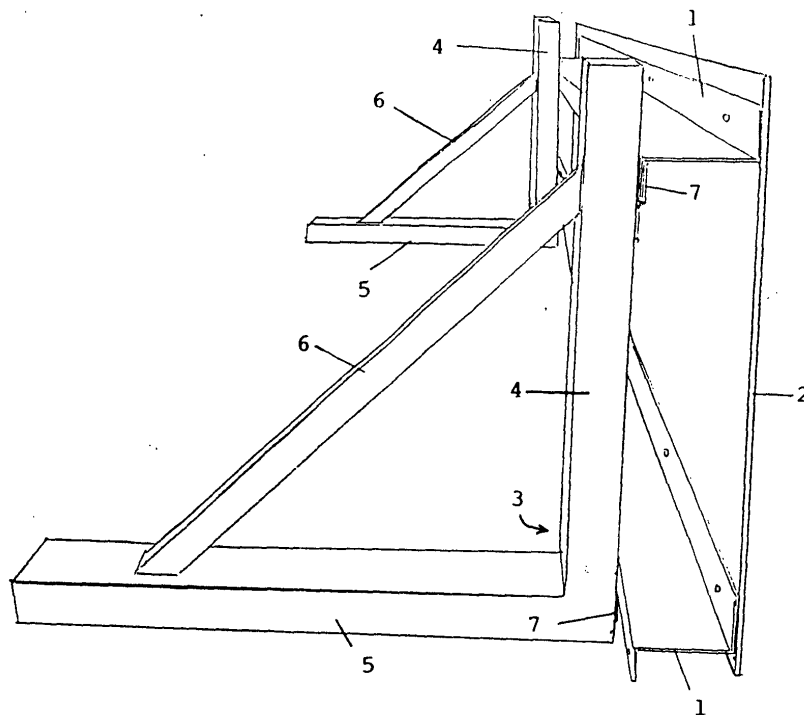


FIG. 3

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Description

[0001] This invention is related to a casting mould device which is suited for casting concrete and similar, especially for making base plates, columns, column footings, walls and similar, and also for recesses in walls and similar, e.g. for windows, doors and similar, and for stop ends for arches and structural floors, stop ends in lift wells and similar.

[0002] The device is especially suited for low moulds with a height of up to 1.5 m, especially up to 1.2 to 1.0 m or less, e.g. up to 0.8 or 0.6 m or in some cases up to 0.4 m, and usually with a height of at least 0.15 m or 0.25 m.

[0003] The casting mould device according to this invention comprises according to an embodiment one or more support beams, also denoted horizontal beams, which are suited for carrying or supporting shuttering panels or parts of shuttering panels or similar casting mould surface forming elements and which preferably are arranged essentially parallel to said surfaces, and transverse supports, also denoted vertical supports, for said support or horizontal beams. Said transverse supports (vertical supports) are preferably arranged essentially perpendicular to the support beam (s) and the mould surface resp. and are intended to transfer the mould pressure, e.g. the pressure of the cast concrete, to a base or anvil, such as the ground or a wall etc. Said transverse supports (vertical supports) have preferably essentially triangular shape comprising a post, which is normally arranged parallel to the mould surface forming element, such as a shuttering panel or similar, or optionally carries directly the element forming the mould surface. Said post is usually arranged with its longitudinal direction extending essentially vertically, but may also be arranged in a direction which deviates e.g. up to 45 degrees, preferably up to 30 degrees or up to 15 degrees from the horizontal plane, e.g. for supporting a mould bottom surface.

[0004] The post is connected to a base part, also denoted bottom part, of said transverse support, to which the mould pressure is transferred from the post and from which the mould pressure is transferred to a base, preferably the ground or optionally a wall or another force supporting body. The mould pressure is preferably transferred to said base part with a brace (strut) extending from said post to said base part, preferably from the upper part of the post to the section or end of the base part which is remote from the post. More than one brace can be used, e.g. in case the post is very long and a high casting mould exerting a high casting pressure is to be supported, e.g. a height above 1 m and preferably above 1.5 or 2 m. The base part, as well as the post, preferably has elongated shape with a length which is several times its breadth. The base part (bottom part) can be secured to the base in various ways, e.g. by being provided with holes or openings or other means for fastening with e.g. bolts, bars, nails, etc.

[0005] The post and the base part are fixedly or releasably and/or pivotably connected to each other at one end of said elements, preferably with a bolt joint or a similar means which makes possible a rotating motion of said parts in relation to each other in a plane. This is suitably achieved by bonding said parts together with a bolt or a similar joint which is pivotable in one plane, whereby a suitable angle between the post and the base part can be achieved by joining one end or both ends of said brace pivotably or displacably to the post and base part resp. The angle between the post and the base part may e.g. be varied with up to 60 degrees, preferably up to 45 degrees or up to 30 degrees or 15 degrees from a straight angle, in one direction or in both directions.

[0006] It is usually suitable to use at least two support beams (horizontal beams) connected to at least two transverse supports (vertical supports), but a larger number of beams and supports may, of course, be used when required.

[0007] The support beams are preferably straight for supporting flat surfaces, but also curved beams can be used for supporting curved mould surfaces.

[0008] A suitable profile of the support beams (horizontal beams) is a Z-profile which permits uncomplicated fastening to the posts and uncomplicated fastening of the shuttering panels or other mould surface forming elements to the support beams.

[0009] The expression "Z-profile" may also comprise other profiles in which the shape of the Z-profile is comprised, e.g.

H-profile, h-profile, etc. As an alternative it is also possible to use other beam profiles which permit fastening to the transverse supports and fastening of shuttering panels or other mould surface forming elements, such as U-beams, preferably with a more narrow flange facing and fastened to the transverse supports and a broader flange facing a shuttering panel or similar means fastened to said flange.

[0010] The fastening means for joining the support beams to the transverse supports may for Z-beams and similar form a vertical gap adjacent the post into which a flange of the beam can be pushed down. The fastening means may be fixedly joined to the post or stepwise or continuously (stepless) displacable in the longitudinal direction thereof and may be arranged for being locked in a desired position, e.g. be arranged for being fastened or snapped into openings arranged at various levels along the post. Preferably the fastening means for the support beams are arranged for being braced to the post with bolt joints, e.g. with fly nuts and with the bolt displacable in grooves extending in the longitudinal direction of the post, e.g. grooves which extend through the surface of the post facing the mould surface.

Claims

1. A transverse support (3) suited for use for support-

ing a

casting mould device for casting concrete, e.g. for base plates, walls, column, recesses and similar, comprising a number of transverse supports (3), which transverse support has substantially triangular shape with a post (4) which is connected to a base part (5) with a joint pivotable in one plane, and a brace part (6) extending between the post and the base part, the posts of the transverse support (3) being suited for supporting a mould shuttering (2) with a height of 1,5 m or less with the aid of support beams which are held by the transverse supports (3) with fastening means (7) and which carry or form a part of the shuttering, the post being arranged for transferring the mould pressure exerted by the concrete on the mould shuttering in a casting operation through the brace part (6) onto the base part (5), wherein at least one end of the brace part (6) is displaceable along the post (4) or base part (5), and means for varying the angle between the post and the base part from a stright angle in both directions and setting said angle at a desired angle with means comprising a slot or slots (13,14,32) for displacing a bolt or bolts or locking means (10, 12, 35) for locking the end of the brace in a desired position, and wherein the post (4) and the base part (5) are made from elongated profile beams of metal.

2. A transverse support according to claim 1, wherein the post (4), the base part (5) and optionally the brace part (6) are made from light metal.
3. A transverse support according to claim 1 or 2 in which the means for varying and setting the angle between the post (4) and the base part (5) comprises slots (13, 14) for displacing bolts or locking means (10, 12) or a slot (32) in the base part (32) with a through bolt (35) and a locking nut (36), for locking the end of the brace part (6) in a desired position to the base part for setting the desired angle between the post (4) and the base part (5).
4. A transverse support according to any of claims 1 to 3 wherein the elongated profile beams forming the post (4) and the base part (5) are provided with flanges (8, 9) extending out in right angle to the side of the beam which is intended to faces a mould or a base resp., the distance between the inner sides of the flanges of one of said parts being larger than the distance between the outer sides of the flanges of the other part, said parts being joined to each other with a through bolt extending through holes in the flanges forming the joint which is pivotable in one plane, the brace (6) having a shape which fits in between the flanges and being at one end pivotably connected to the post (4) and at the other end provided with a bolt which extends through the slot (32) in the base part so that the end of the brace can be

locked in a desired position to the base part (5) for setting the desired angle between the post and the base part.

5. The use of the transverse support according to any of the preceding claims for supporting a shuttering in a mould intended for casting concrete.

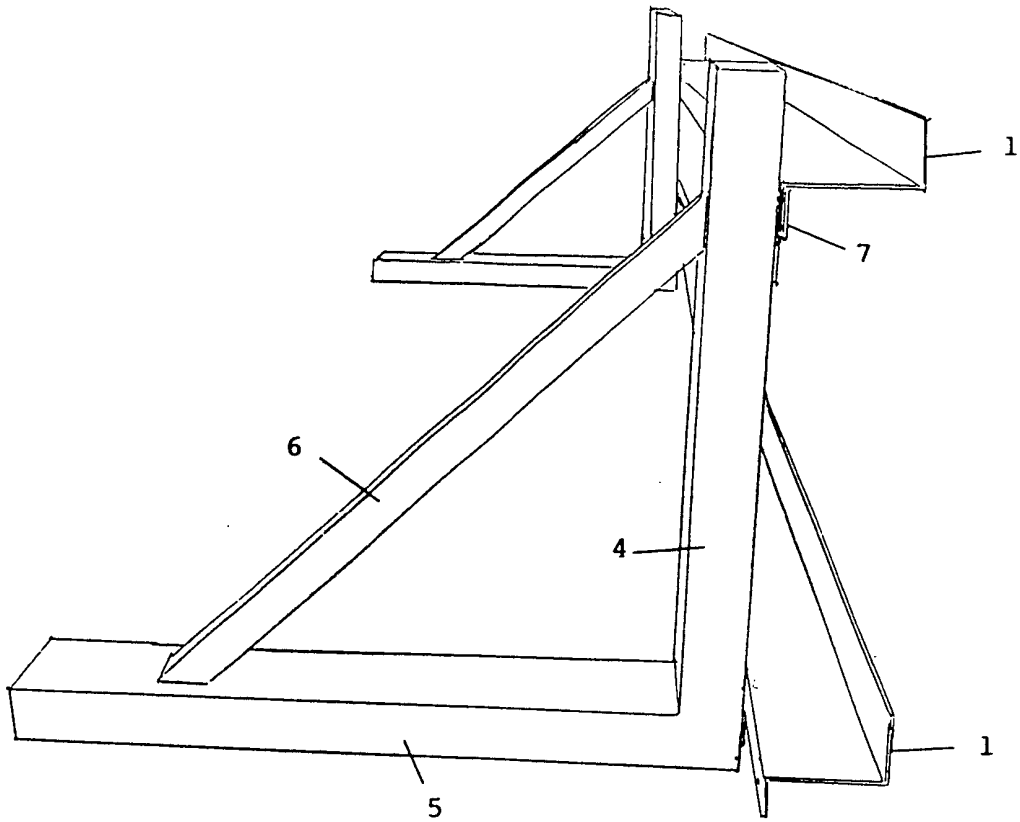


FIG. 1

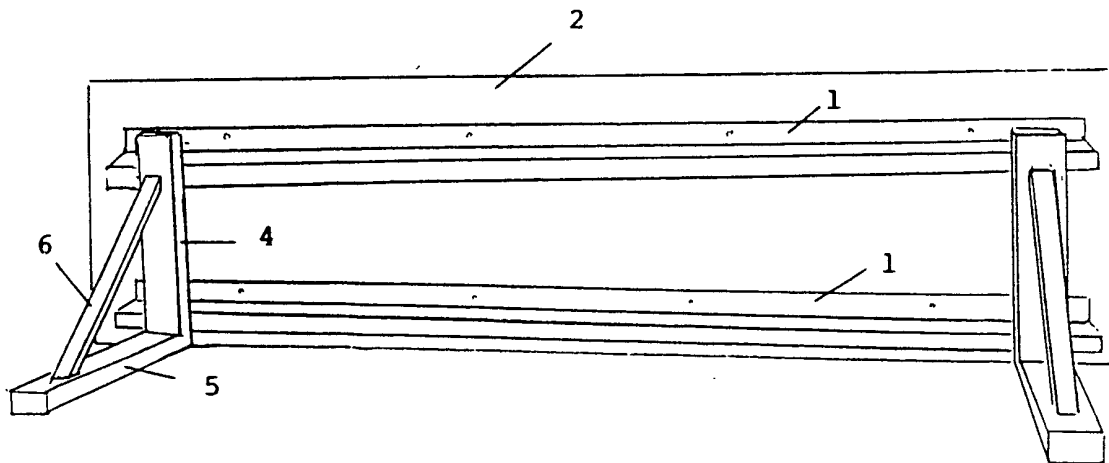


FIG. 2

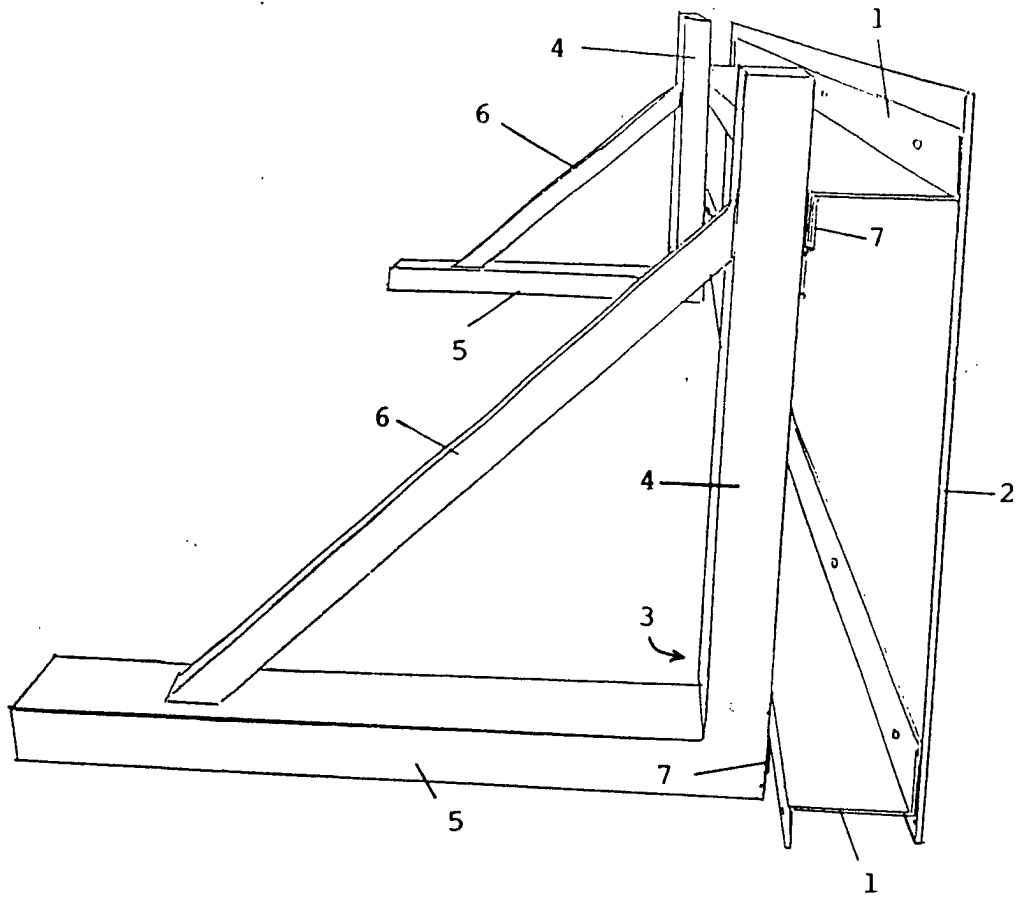


FIG. 3

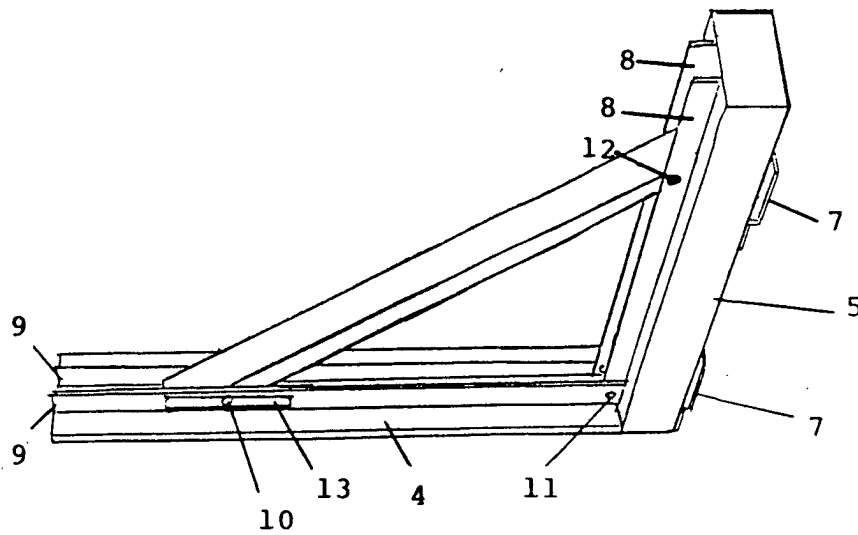


FIG. 4

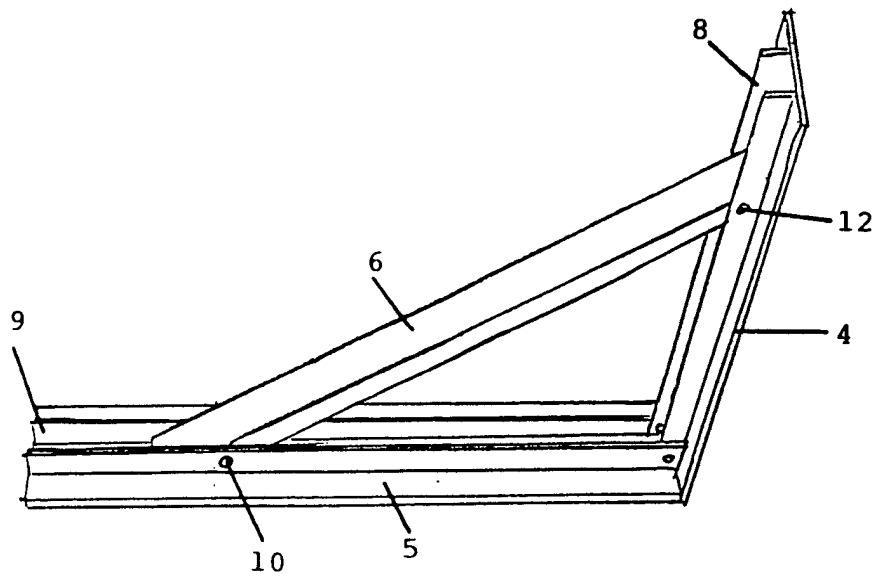


FIG. 6

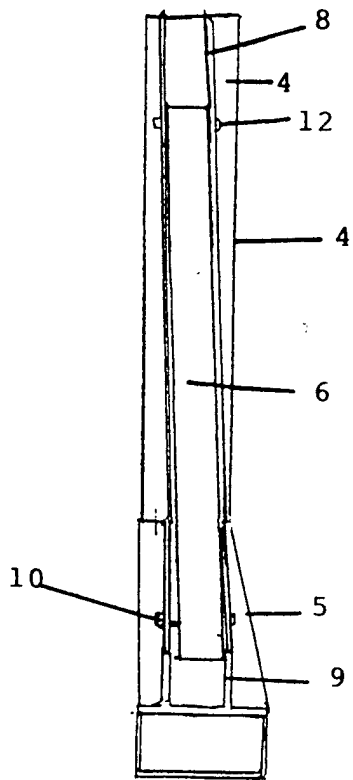


FIG. 5

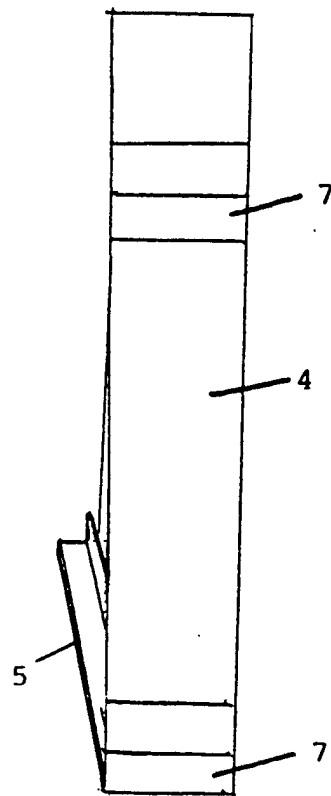


FIG. 7

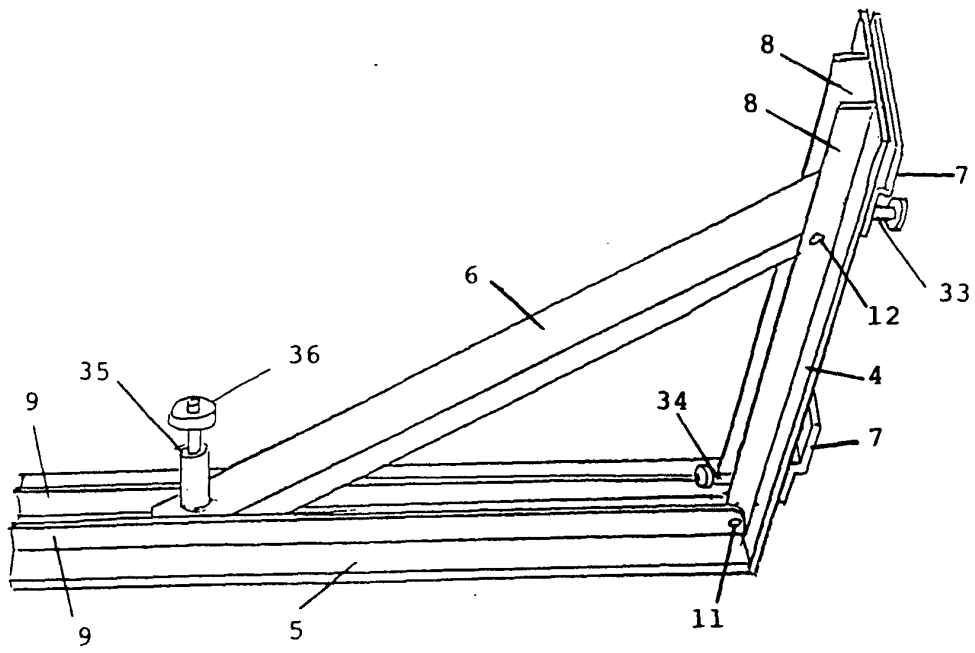


FIG. 8

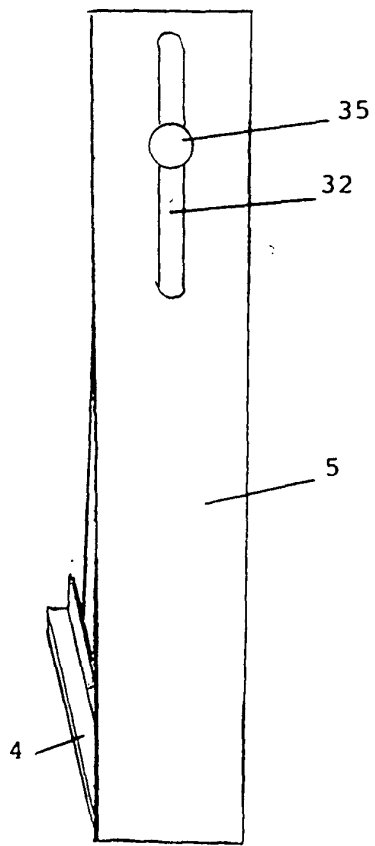


FIG. 10

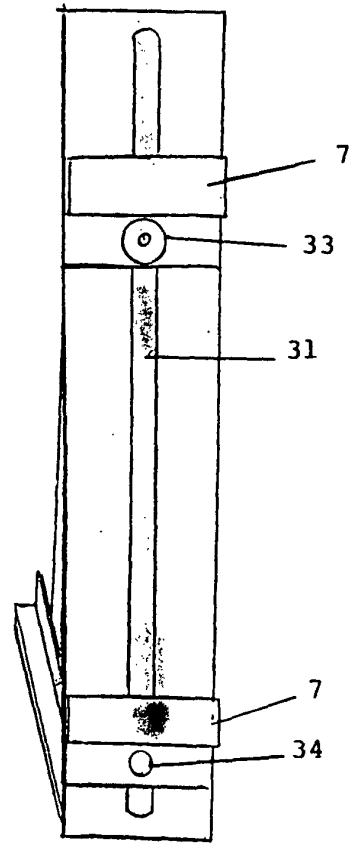


FIG. 9

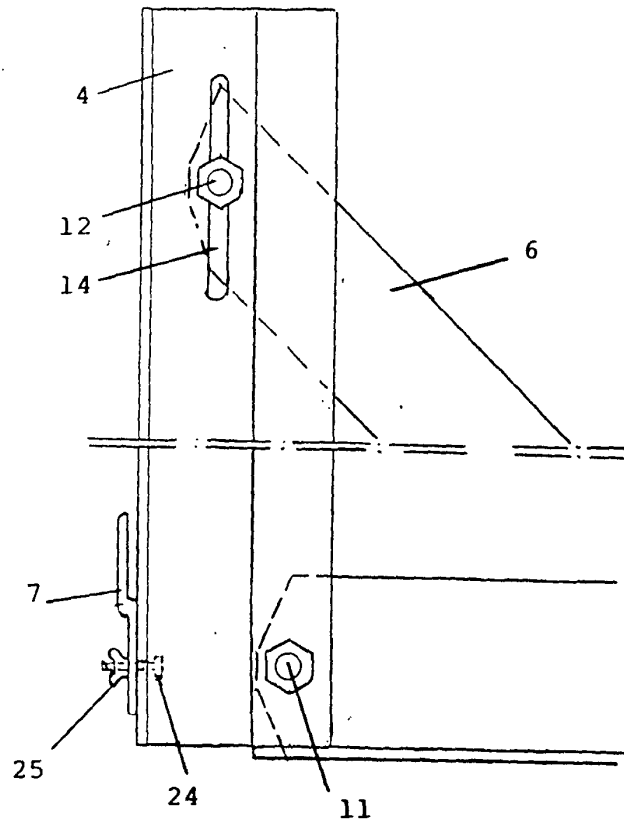


FIG. 11

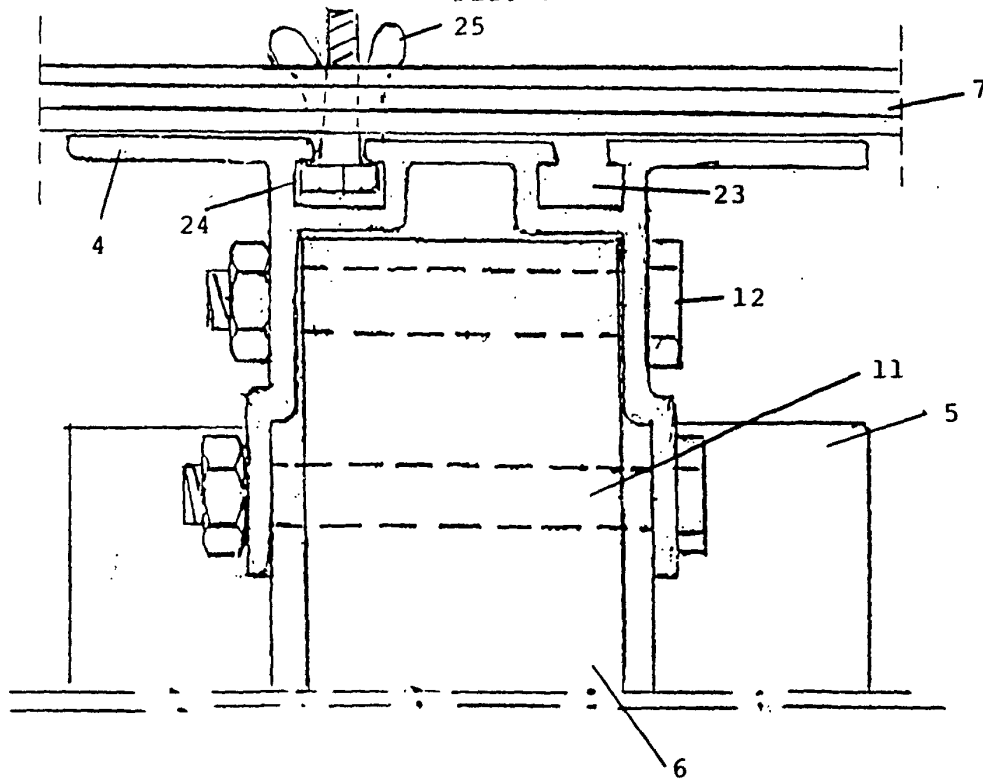


FIG. 12

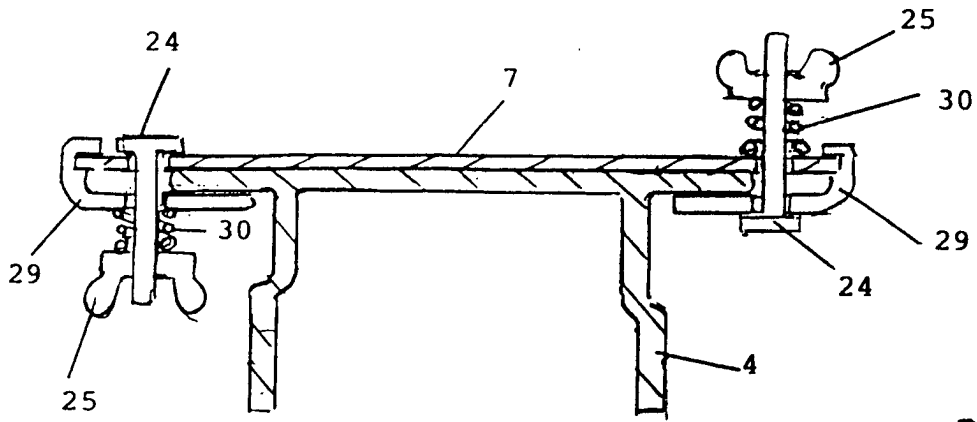


FIG. 14

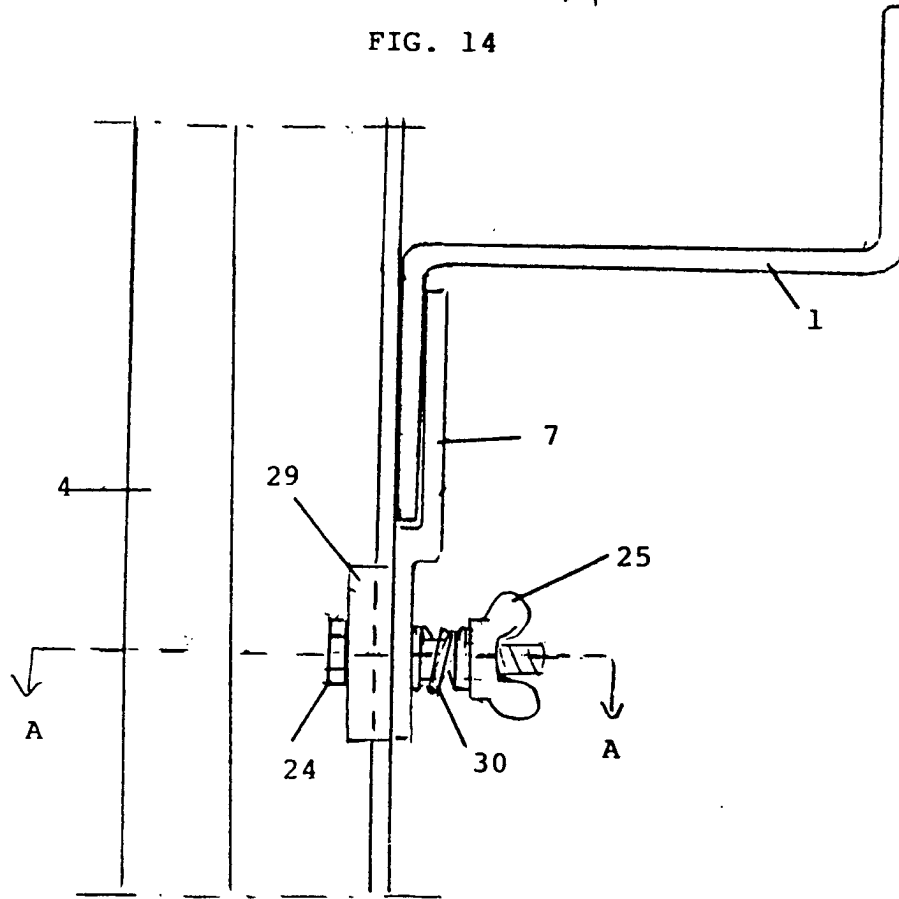
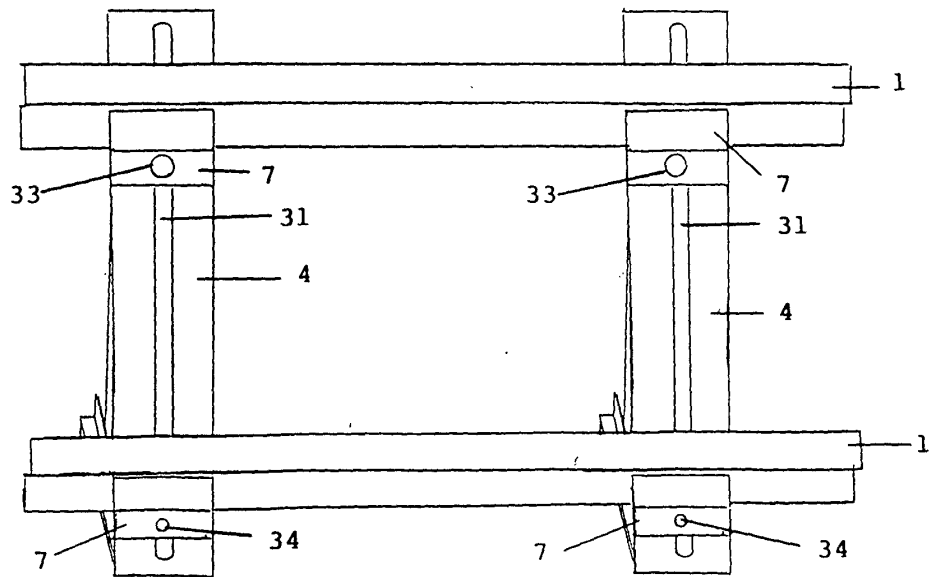
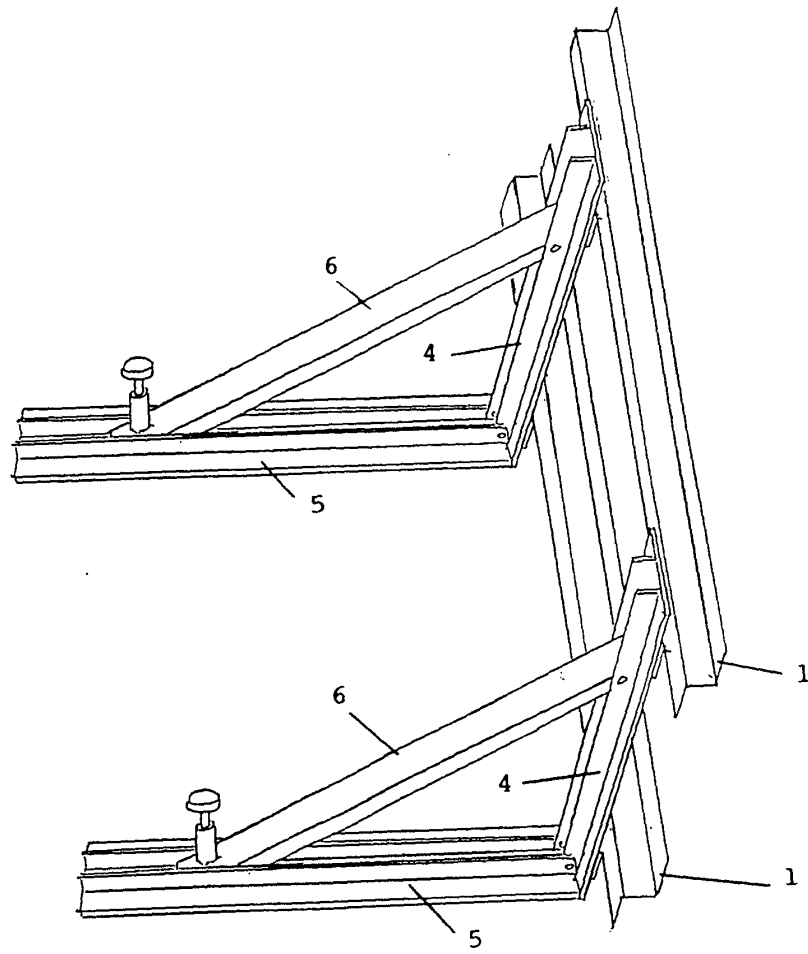


FIG. 13



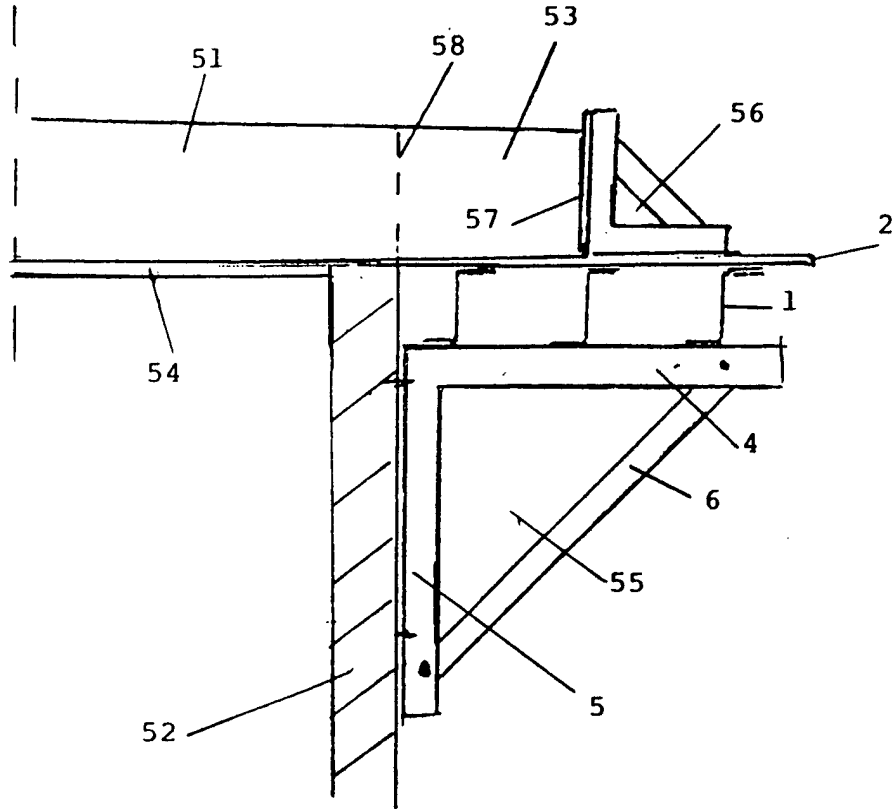


FIG. 17

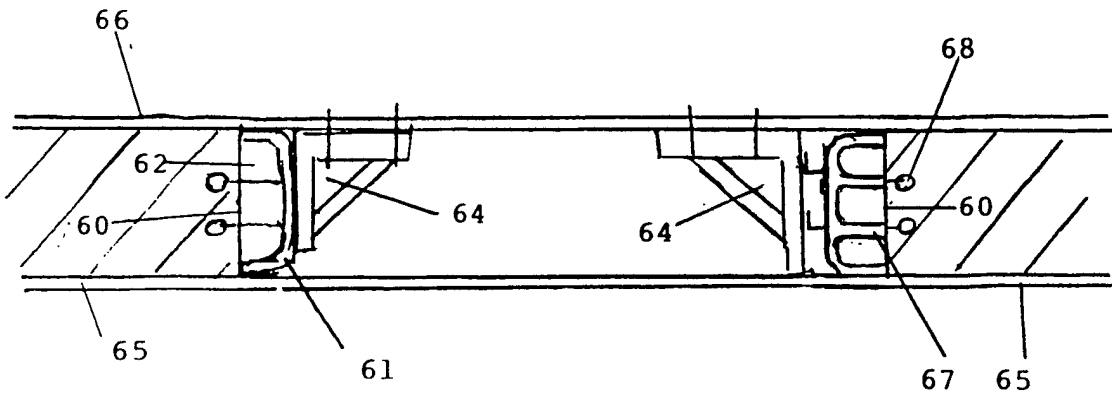


FIG. 18