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Hamblin

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[54] **MOLD FOR CASTING CONCRETE ARTICLES**

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[51] **Int. Cl.** **B28b 7/22**

[58] **Field of Search** 249/50, 154, 162, 163, 249/164, 170, 171, 173, 185, 137, 13, 18, 26, 112, 108, 127, 129, 135, 158, 168, 205, 117, 118, 157, 161, 160, 165

[56] **References Cited**

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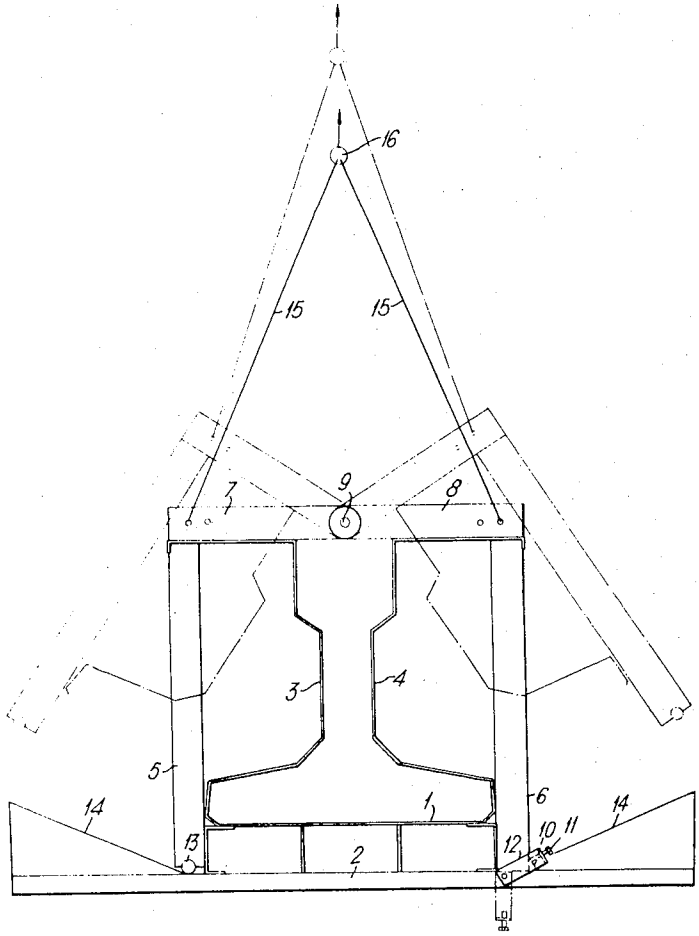
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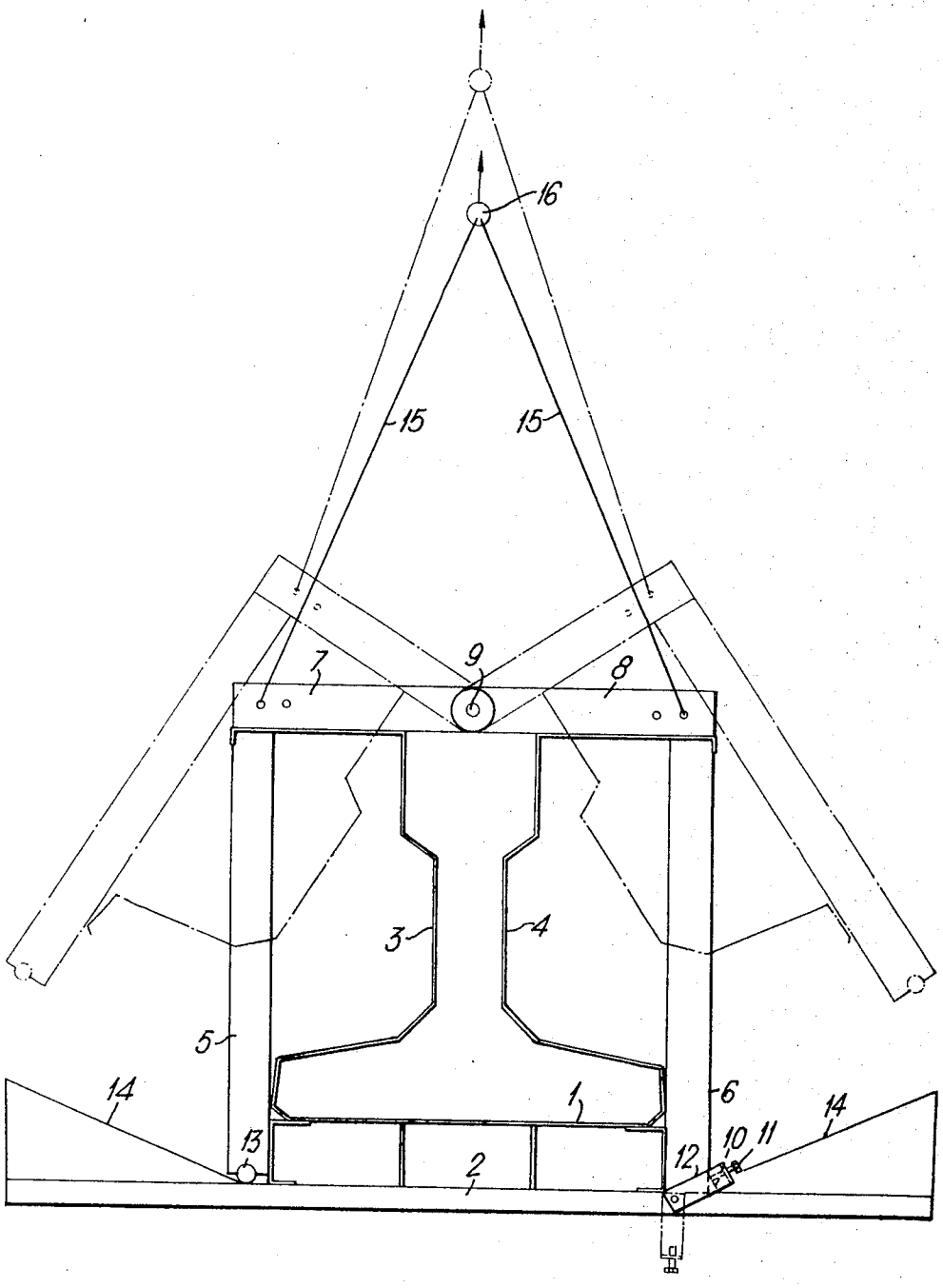
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[57] **ABSTRACT**

A mould suitable for casting concrete articles includes a pair of sheet metal side wall members each of which has a number of vertical struts spaced apart along its length with a top strap attached to the top end of each strut. Each strap extends partway across the mould and is pivotally joined at its end remote from the strut to the end of a strap extending from an opposite strut. Anti-friction members on the bottoms of at least some of the struts rest on inclined guide surfaces to urge the opposite struts and the side wall member towards each other to close the mould under its own weight. Releasable clamps are provided to maintain the mould closed and lifting gear is provided to lift the straps and so cause the side wall members to pivot outwardly to open the mould.

6 Claims, 1 Drawing Figure




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MOLD FOR CASTING CONCRETE ARTICLES

SUMMARY OF THE INVENTION

This invention relates to moulds.

The object of the invention is to provide an improved mould suitable, for example, for the production of concrete castings with or without reinforcement which can be quickly opened after the mouldable material has set and then accurately reassembled for a subsequent moulding operation with the minimum of manual labour.

A mould in accordance with the invention comprises a base, a pair of side wall members, each of which has a number of vertical struts spaced apart along its length, each strut having a transverse top strap attached to its top end which extends partway across the mould and is pivotally joined at its end remote from the strut to the end of a strap extending from an opposite one of the struts, a plurality of the struts on both sides being provided with anti-friction members at their bottom ends for engagement with inclined guide surfaces extending outwardly and upwardly from adjacent the sides of the mould base so as to urge the side wall members towards each other to close the mould under the weight of the members when resting on the guide surfaces, and clamps to releasably secure the bottom ends of the remaining struts in positions to maintain the mould in a closed condition to receive mouldable material.

BRIEF DESCRIPTION OF THE INVENTION

For a clearer understanding of the invention a preferred embodiment of the invention will now be described in detail with reference to the accompanying Drawing which shows a diagrammatic end view of a mould for casting concrete beams.

DETAILED DESCRIPTION OF THE INVENTION

The mould shown in the Drawing comprises a sheet metal pallet **1** forming the mould base which is mounted on cross bearers **2** carried by a foundation structure (not shown).

The upper surface of the pallet presents an elongated bottom mould surface, the mould sides being formed by two sheet metal members **3, 4** extending longitudinally and spaced on either side of a vertical plane running through the longitudinal centre line of the mould bottom. The mould sides are supported at intervals by struts or soldiers **5, 6** spaced apart at intervals along their lengths, each soldier **5** having a corresponding soldier **6** located oppositely thereto so that the soldiers on both sides are arranged in spaced-apart pairs extending the length of the mould. Each soldier is connected at its top end to a top strap **7, 8** which also forms an additional attachment for a mould side, the top straps of each pair of soldiers extending to the centre of the mould where they are linked together by a hinge bar **9** also extending along the mould.

As shown on the right-hand side of the drawing, a number of the soldiers on each side terminate in a foot part having an inclined surface **10** to receive the end of a screw **11** mounted on a hinged clamp **12** so that when the mould is in the closed position shown by the full lines in the drawing the clamps serve to hold the bottom ends of the soldiers and hence the mould sides securely in position to receive a concrete mix.

As shown on the left-hand side of the drawing, the bottom ends of the remaining soldiers are provided with anti-friction devices in the form of rollers **13** which are located for engagement with inclined guides formed by ramps **14** mounted on certain of the cross bearers, the ramps extending upwardly and outwardly from the adjacent sides of the base for a purpose which will be presently described.

As previously stated, when the mould is in the position shown in full lines in the drawing it can be filled with concrete mix through its open top in the space bounded by the sides **3, 4** and the base **1.** When the mix has set, the mould is opened by lifting the mould sides by means of slings **15** attached to the outer ends of the top straps **7, 8,** each pair of top strap slings being linked to a spreader bar **16** which is in turn carried by lifting tackle such as a crane hook or hooks. As lifting commences following the release of the clamps **12,** the rollers **13** engage the sloping surfaces of the ramps **14** which are disposed to cause the mould sides to spread outwardly to the position shown in dotted lines in the drawing, the angle and configuration of the ramp surfaces providing a control of the vertical and horizontal motions of the mould sides to ensure that the surfaces of the sides leave the set concrete cleanly. With the mould open the concrete casting thus produced is removed following which the mould is once more lowered by the lifting tackle, the re-engagement of the rollers **13** with the ramps **14** causing the sides to return accurately to the full line position whereupon the clamps **12** can once again be tightened so that the mould is ready for a subsequent filling operation.

It will be seen that the present structure provides a reliable means of ensuring that the mould is readily opened and closed with an accuracy sufficient to ensure that the moulding is undamaged by relative movement with the mould sides and that in the closed position the sides are located to ensure consistency in a series of moulding operations. Moreover, since the mould is automatically opened and closed as it is lifted and lowered, the manual labour involved is substantially less than that involved in conventional moulds which generally require several operators to disassemble and re-assemble them.

We claim:

1. A mould comprising a base, a pair of side wall members, each of which has a number of vertical struts spaced apart along its length, each strut having a transverse top strap attached to its top end which extends partway across the mould and is pivotally joined at its end remote from the strut to the end of a strap extending from an opposite one of the struts, guide surfaces extending outwardly and upwardly from adjacent the sides of the mold base, a plurality of the struts on both sides being provided with anti-friction members at their bottom ends for engagement with said inclined guide surfaces so as to urge the side wall members towards each other to close the mould under the weight of the members when resting on the guide surfaces, and clamps to releasably secure the bottom ends of the remaining struts in positions to maintain the mould in a closed condition to receive mouldable material.

2. A mould according to claim **1** in which each of the side wall members is made of sheet metal.

3. A mould according to claim **1** in which the base of the mould comprises a sheet metal pallet.

4. A mould according to claim 1 in which said top strap pivoting ends have a common hinge rod extending the length of the mould.

5. A mould according to claim 1 in which the anti-friction members are rollers.

6. A mould according to claim 1 in which each of the clamps comprises a hinged member having a clamping screw for engagement with an inclined surface at the bottom of its corresponding strut.

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