

May 1, 1951

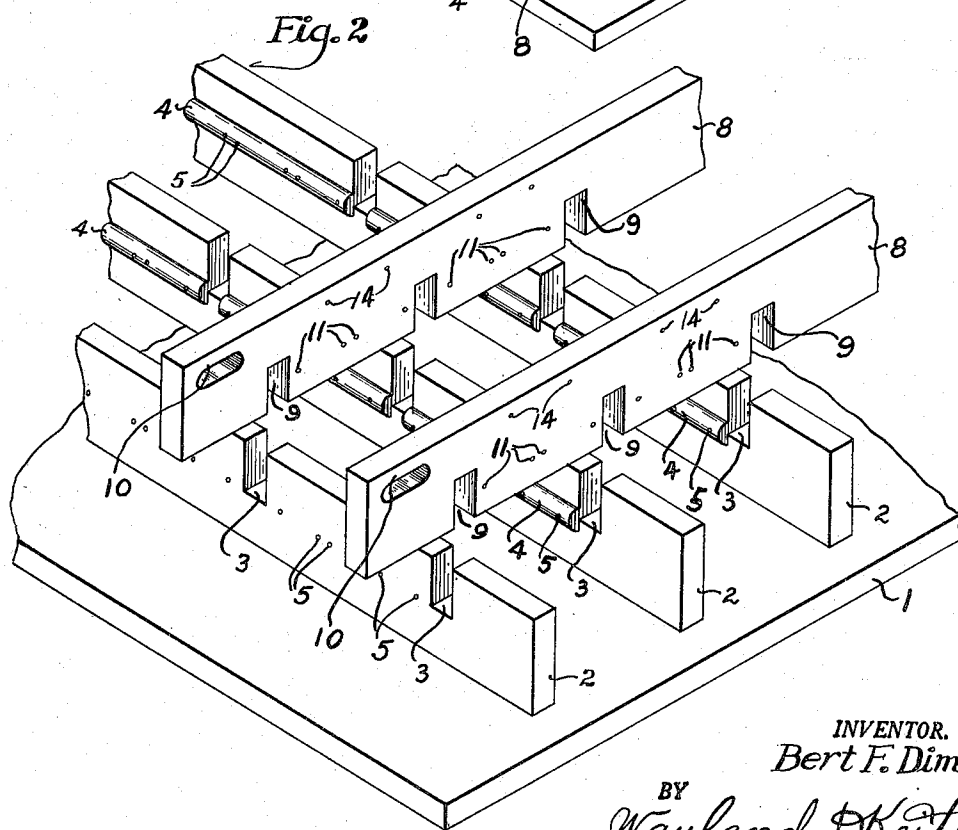
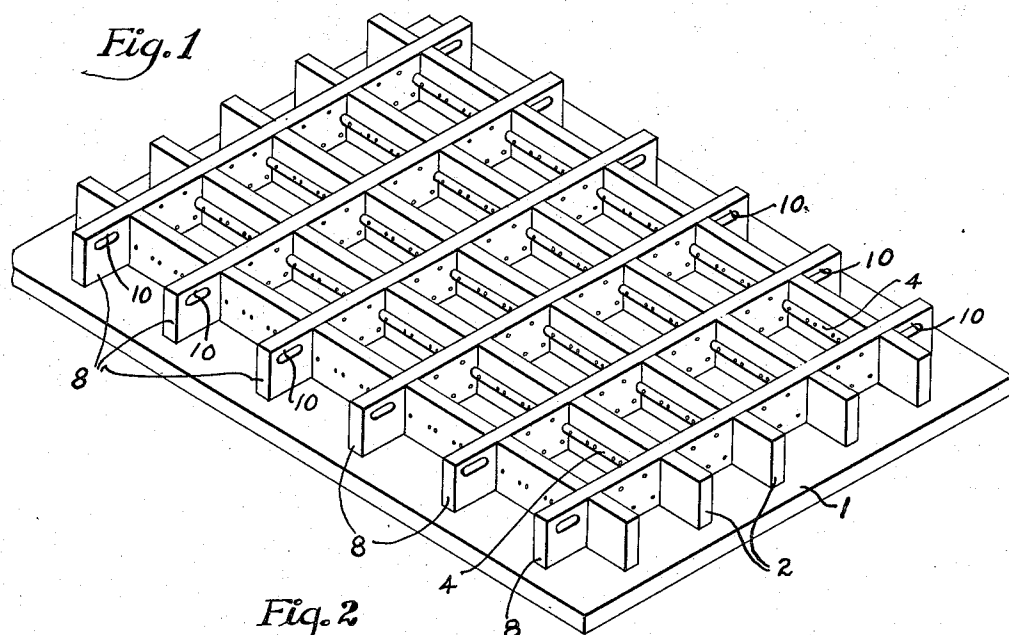
B. F. DIMOCK

2,550,977

CONCRETE BLOCK MOLDING FORM

Filed April 8, 1947

3 Sheets-Sheet 1



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Fig. 3

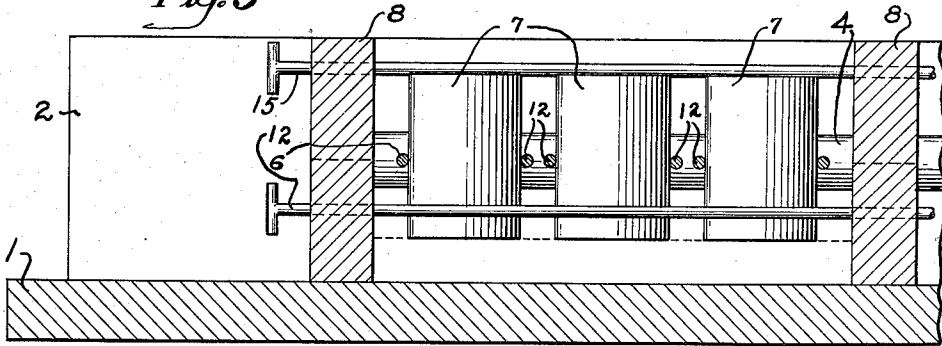
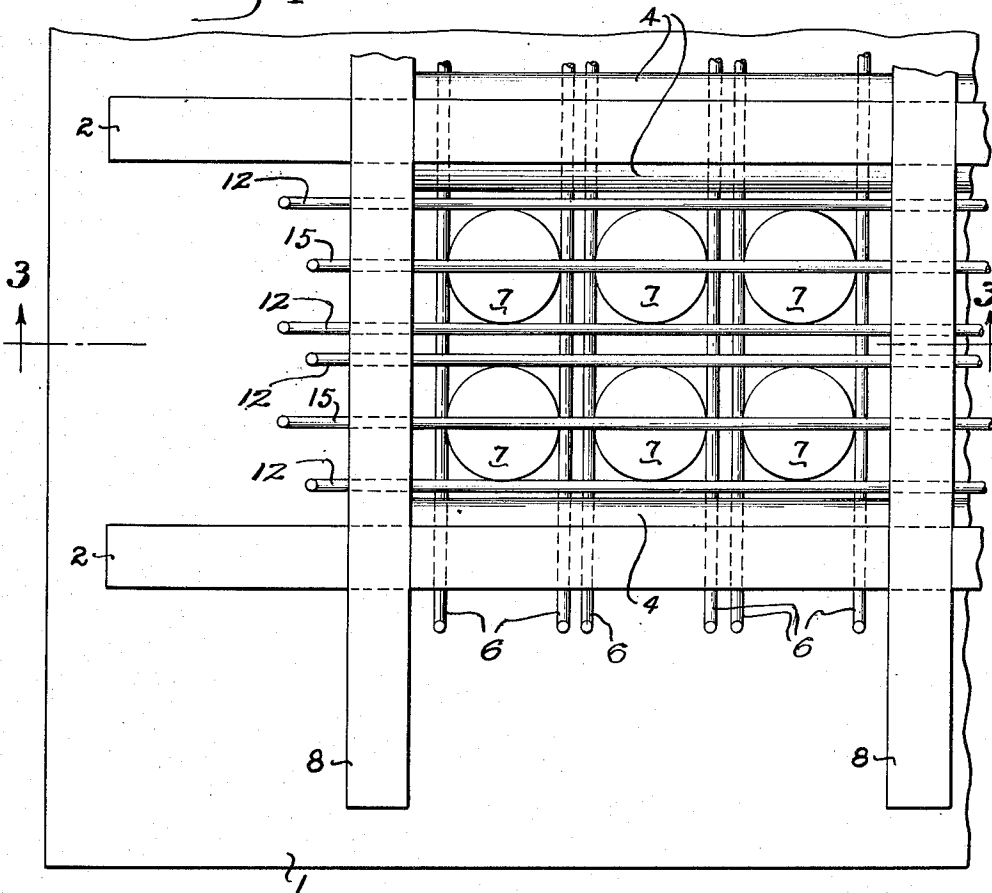


Fig. 4



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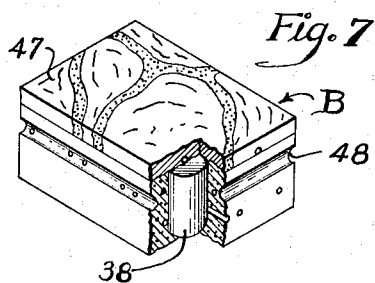
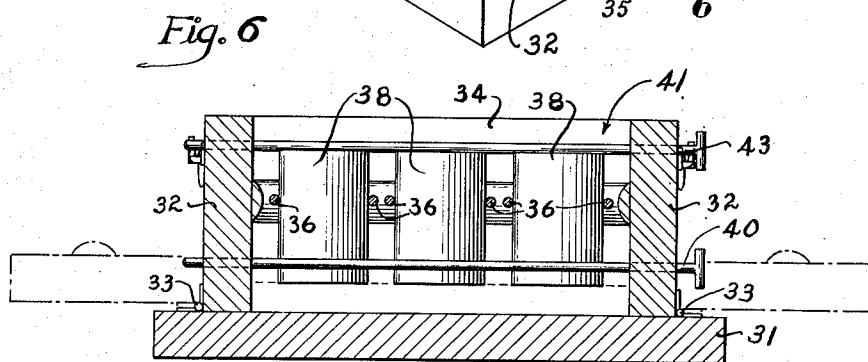
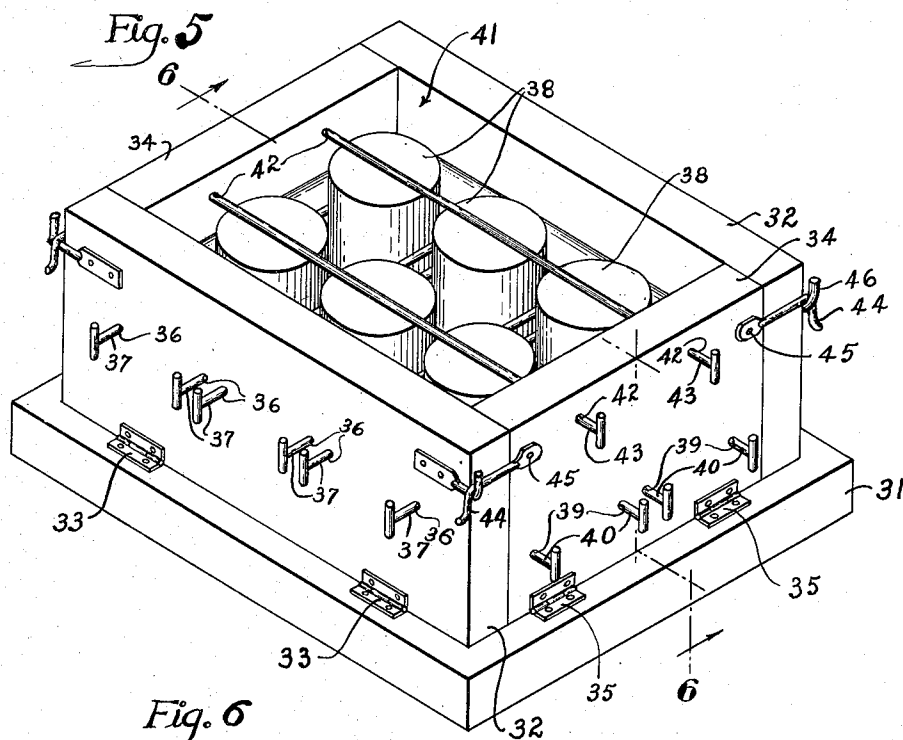
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CONCRETE BLOCK MOLDING FORM

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7 Claims. (Cl. 25—121)

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This invention relates to improvements in concrete block molding forms, and more particularly to concrete block molding forms which hold a core in a fixed position within the mold while a plastic concrete mass is formed therearound.

Various concrete block molds have been proposed heretofore but these, for the most part, do not employ means for securely holding a core in place while the concrete is cast therearound so as to form the core as an integral part of the concrete block with the block presenting plane facets on six sides thereof without being marred by large holes therethrough, which holes are usually used to lighten the block.

The primary object of the present invention is to provide an apparatus for molding concrete blocks of unusual strength and rigidity yet light in weight and presenting sides, any one of which may be used as an exposed surface.

Another object of this invention is to provide an apparatus for molding a concrete block to which a stone facing may be applied so as to present a stone veneer made integral therewith.

A still further object of this invention is to provide a concrete block in which cylindrical cellular objects are embedded so as to reinforce the concrete block.

With the foregoing objects in mind and others that will be apparent as the description proceeds, reference is to be had to the drawings, in which:

Fig. 1 is an isometric view of the molding device showing the dividing partitions in place on a base member;

Fig. 2 is an isometric view of a portion of the base member with certain dividing partitions thereon and others raised thereabove so as to show the manner in which the members interfit;

Fig. 3 is a section taken on the line 3—3 of Fig. 4;

Fig. 4 is a fragmentary view of a corner of the base member, showing one mold cavity;

Fig. 5 is an isometric view of a modified form of the invention, showing cellular cores in place therein;

Fig. 6 is a section taken on the line 6—6 of Fig. 5, looking in the direction indicated by the arrows; and

Fig. 7 is an isometric view of a concrete block with a portion broken away to show the manner in which a cellular core is positioned therein, with the concrete block showing a rock veneer thereon.

With more detailed reference to the drawings, the numeral 1 represents a flat base which may

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be of metal, concrete, wood, or other suitable material, on which is positioned longitudinal dividing partitions 2 spaced at intervals across the width thereof. The longitudinal dividing partitions 2 have notches 3 formed at spaced intervals within the length thereof, preferably of about one-half the depth of the dividing partitions and of a width to accommodate a transverse complementary partition, as will be hereinafter more fully described. Positioned approximately mid-way of the width of the partitions 2 and on the faces facing toward the mold cavity are rounded segmental strips 4 of a length extending between the inner faces of notches 3. While the segmental strips 4 may be of any convex shape, it is preferable to have these formed somewhat semi-round, as indicated in Fig. 2. Holes 5 are positioned throughout the length of longitudinal dividing partitions 2, which holes will admit of passing rods 6 therethrough. Cellular objects 7, such as "tin cans," may be inserted between these rods, which hold the tin cans against displacement longitudinally of the longitudinal dividing partitions 2.

Transverse partitions 8, having notches 9 in the underside thereof, extend upward approximately one-half the width of the partition strips 8 and are spaced along the length thereof at a spacing equal to the distance of longitudinal partitions 2, and said notches 9 are of a width sufficient to receive the thickness of partitions 2. The transverse members 8, preferably have hand holds 10 on each end thereof so they may be grasped so the partitions may be lifted upward as indicated in Fig. 2. The partitions 8 have holes 11 at spaced intervals along the length thereof to receive rods 12 therethrough, as indicated in Fig. 4, which rods prevent the lateral movement or shifting of cellular objects, such as tin cans 7, which may be placed therebetween.

Holes 14 are provided in the upper portion of partition strips 8 so a rod 15 may pass over the cans 7 to prevent them from floating out of the mold when concrete is poured into the mold cavity formed by the partition strips 2 and 8, when positioned in inter-fitting relation as shown in Figs. 1, 3 and 4. When the partition strips 2 and 8 are fitted together, as shown in Fig. 1, the rods 6 and 12 are positioned as shown in Figs. 3 and 4, it being preferable to pour a layer of concrete into the mold before the cans are placed therein. The cans 7 are then fitted into the squares formed by said rods, which rods locate the cans within the mold cavity 16. After the cans 7 are placed within the mold cavity, in the

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manner designated above, the rods 15 are passed thereover, as indicated in Figs. 3 and 4, to hold the cans in proper relation within the mold cavity while the remaining concrete is poured thereinto.

After the concrete within the mold cavity has been allowed to harden, the rods 6, 12 and 15 may be pulled out. After this has been done, the partition strips 8 may then be lifted vertically until they clear the forms 2, and thus be removed from the mold. Then, by lateral movement of strips 2, the concrete blocks that have been formed within the mold cavity can be removed.

It will be appreciated that this mold device is simple in construction and can be assembled and dis-assembled readily to occupy a minimum of space while being transported, or for storage when not in use. It is also to be appreciated that by the arrangement of the rods 6, 12 and 15 within the mold cavity formed by the partitions, that the cellular objects, such as tin cans, may be positioned within the block being molded so as to result in a block having six plane surfaces with the inner portion thereof cored out by the use of the cans embedded therein so as to make the block light in weight and of great strength and which may be readily handled and manufactured, yet entirely adequate for building purposes.

The use of the tin cans within the blocks also provides a re-inforcement element for the concrete block that makes it lighter and stronger than would be possible by merely forming it with cored holes therethrough. The tin cans 7 which are cast within the interior of the concrete block form a dead air space of high insulating value.

Attention is also directed to the fact that a cored mortar groove may be formed in opposite edges of the block by the use of semi-round mold strips 4 positioned on the longitudinal partitions 2, if so desired.

With the partitions arranged as described above, a multiplicity of blocks may be molded simultaneously and with practically the same effort that would be required for making a single block. The arrangement of the rods within the mold cavity accurately positions the cans therein so that they are completely embedded within the concrete block.

In the form of the invention as shown in Figs. 5 and 6, a base 31 is provided upon which longitudinal sides 32 are hingeably connected at 33. Transverse end members 34 are hingeably connected at 35, so as to define a mold cavity in which to mold a block substantially as described above.

Holes 36 are provided at spaced intervals throughout the length of the side form 32 to receive rods 37 therethrough for spacing the cans 38 longitudinally within the mold in the manner described above.

Holes 39 are provided at spaced intervals throughout the length of each of the end members 34, which holes are adapted to receive rods 40, which rods serve to space the cans 38 transversely in the mold cavity 41. Holes 42 are provided in members 34, near the tops thereof, and are adapted to receive rods 43 therethrough, which rods pass above the tops of the cans 38 and hold them against upward movement when the concrete is poured into the mold cavity 41.

Hooks 44 are pivotally secured at 45 on either side of each end member 34, which hooks are adapted to engage upturned co-acting latch

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members 46 that are rigidly secured to the side members 32 in corresponding relation to hooks 44. When each hook 44 is engaged with its corresponding latch member 46, the sides 32 and 34 are held upright and against outward movement during the pouring of the concrete into the mold formed thereby.

After the concrete has set, the rods 37, 39, and 43 are removed and the hook and latch members 44-46 may be disengaged. The sides 32 and ends 34 may then be dropped downward on their hinges, as indicated in dashed outline in Fig. 6, leaving the molded concrete block free to be lifted from the mold, and the mold can then be quickly re-assembled for the molding of another block.

It can be readily appreciated that a concrete block B, such as shown in Fig. 7, with cellular objects, such as tin cans 38 completely embedded therein and serving both to lighten and to reinforce the block, is provided.

It is to be understood that a veneer or facing of rock 47 may be placed on top of the plastic concrete after the mold cavity 41 has been almost filled with concrete and the rock 47 embedded therein to secure the proper bond. Thus, when the block becomes hardened, the rock or veneer facing 47 becomes an integral part thereof, and when the blocks are laid to form a wall this veneer forms the outer surface of the wall and thus gives a decorative effect with very little extra work, while the smooth faces join block to block and form the inner face of the wall to receive whatever interior wall finish that may be desired. It is also to be appreciated that the edges of the blocks may be formed with a groove or mortar joint 43.

Having thus described the invention, I claim:

1. In a form for molding concrete blocks, a base, upstanding walls positioned on said base, means for maintaining said walls in an upstanding position, said walls having axially aligned transverse holes therethrough at spaced intervals, rods positioned within said axially aligned transverse holes and passing through a plurality of said walls so as to form laterally spaced guide rods to receive and hold a core a spaced distance from the sides, top and bottom of said form, so said core will be completely surrounded by concrete when said form is filled.

2. In a form for molding concrete blocks, a base, upstanding walls positioned on said base, means for maintaining said walls in an upstanding position, said walls having axially aligned transverse holes therethrough at spaced intervals, rods positioned within said axially aligned transverse holes and passing through a plurality of said walls so as to form laterally spaced guide rods to receive and hold a core a spaced distance from the sides, top and bottom of said form, so said core will be completely surrounded by concrete when said form is filled, additional axially aligned transverse holes positioned in said walls to receive rods therethrough so as to maintain said core against movement when positioned between said spaced guide rods.

3. In a form for molding concrete blocks, a base, upstanding walls positioned on said base, means for maintaining said walls in an upstanding position, said walls having axially aligned transverse holes therethrough at spaced intervals, rods positioned within said axially aligned transverse holes and passing through a plurality of said walls so as to form laterally spaced guide rods to receive and hold a core a spaced distance from the sides, top and bottom of said form, so

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said core will be completely surrounded by concrete when said form is filled, additional axially aligned transverse holes in said walls to receive rods therethrough so as to maintain said core against lateral and upward movement when said core is positioned between said laterally spaced guide rods.

4. In a form for molding concrete blocks, a base, upstanding walls positioned on said base, said walls being formed of at least three substantially parallel members which engage at least two wall members disposed transversely with respect thereto, means for maintaining said walls in an upstanding position, said walls having axially aligned holes therethrough at spaced intervals, rods positioned within said axially aligned transverse holes and passing through a plurality of said walls so as to form crossed laterally spaced guide rods to receive and hold a core a spaced distance from the sides, top and bottom of said form, so said core will be completely surrounded by concrete when said form is filled.

5. In a form for molding concrete blocks, a base, upstanding walls positioned on said base, said walls being formed of at least three substantially parallel members with at least two wall members positioned substantially at right angles thereto, each of said wall members having notches therein to enable complementary engagement of certain of said wall members so as to form a plurality of mold cavities between said wall members, means for maintaining said wall members in upstanding position, said walls having axially aligned transverse holes therethrough at spaced intervals, rods positioned within said axially aligned transverse holes and passing through a plurality of said wall members so as to form a plurality of crossed laterally spaced guide rods to form spaces between the crossed laterally spaced guide rods each to receive and hold a hollow core a spaced distance from the sides, top, and bottom of said form, so said core will be completely surrounded by concrete when said form is filled.

6. In a form for molding concrete blocks, a base, upstanding spaced side walls positioned on said base, means for maintaining said side walls in upstanding position, said side walls having aligned holes therethrough at spaced intervals,

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rods positioned within said aligned holes and passing through at least two of said walls so as to form laterally spaced guide rods to receive a core therebetween, other rods positioned within certain other aligned holes and passing through at least two other of said side walls so as to maintain said core against movement when positioned within the space formed by said laterally spaced guide rods, said side walls being hingeably connected to said base for hinging movement relative thereto to enable said sides to be moved for the removal of said blocks.

7. In a form for molding concrete blocks, a base, upstanding side walls positioned on said base, latch means attached to one of said side walls in position to coact with latch means on an adjacent side wall to maintain said side walls in upstanding position, said side walls having aligned holes therethrough at spaced intervals, rods positioned within said aligned holes in at least two of said side walls so as to form spaced guide rods to receive a core therebetween, other rods positioned in certain other aligned holes in other of said side walls and passing through at least two of said last mentioned side walls so as to maintain said core against upward movement when positioned within the space formed by said spaced guide rods, said side walls being hingeably connected to said base for hinging movement relative thereto to enable said sides to be moved for the removal of said blocks.

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