April 12, 1932. A. BRUCKNER 1,853,720

MOLD FOR BUILDING BLOCKS

Filed March 27, 1931

Fig. 1

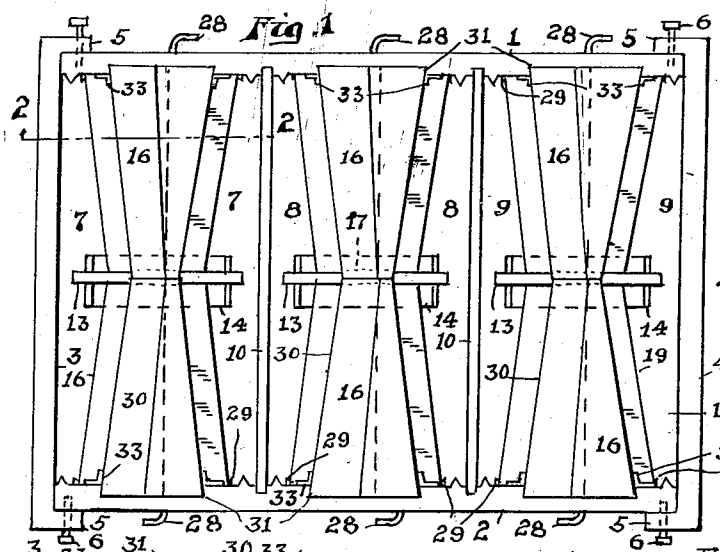


Fig. 3

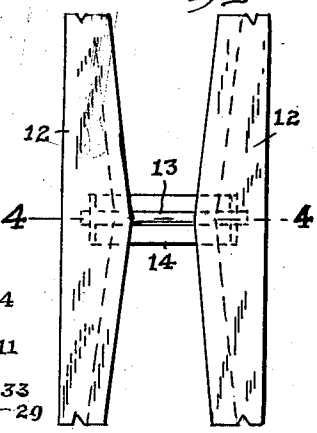


Fig. 2

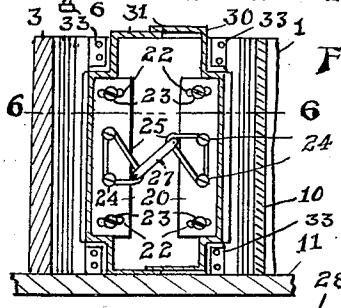


Fig. 5

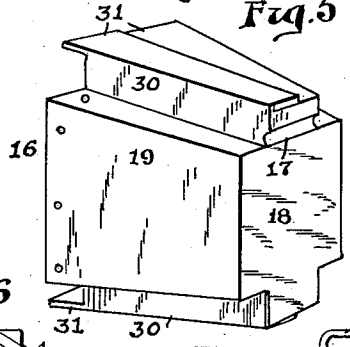


Fig. 4

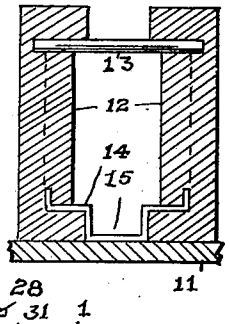


Fig. 6

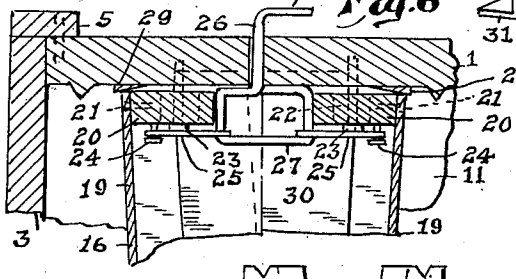


Fig. 7

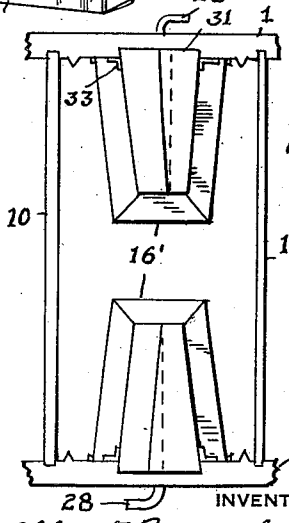


Fig. 8

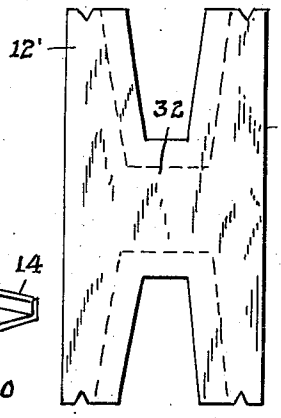
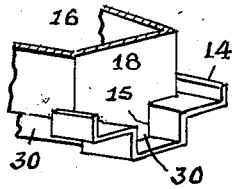


Fig. 9



INVENTOR

Albert Bruckner

by F. N. Barber

attorney

Patented Apr. 12, 1932 1,853,720

UNITED STATES PATENT OFFICE

ALBERT BRUCKNER, OF ETNA, PENNSYLVANIA

MOLD FOR BUILDING BLOCKS

Application filed March 27, 1931. Serial No. 525,690.

My invention relates to molds for making cement building blocks and more particularly to the cores which form the spaces or openings between portions of the blocks.

It is one object of this invention to provide a sheet-metal core of frusto-pyramidal shape. The sides of the core are preferably made integral with one end thereof so that the former are resiliently held in expanded condition. Another object is to provide a simple and efficient means for moving the sides of a core toward each other in order to detach them from the sides of the block in contact therewith in the mold. Further objects appear hereinafter.

Referring to the accompanying drawings, Fig. 1 is a plan view of a compound mold having three mold compartments equipped with my invention; Fig. 2, a section on the line 2—2 on Fig. 1; Fig. 3, a plan view of a building block made in one of the compartments; Fig. 4, a transverse section on the line 4—4 on Fig. 3; Fig. 5, a perspective view of one of the cores; Fig. 6, an enlarged horizontal section on the line 6—6 on Fig. 2; Fig. 7, a fragmentary view showing a plan view of a modification of Figs. 1, 3, and 5; Fig. 8, a plan view of a building block made in the mold shown in Fig. 7; and Fig. 9, a detailed view showing the relation between the tie-plate 14 and one of the core members 16.

I show a compound mold with the vertical sides 1 and 2 and the ends 3 and 4, the latter having flanges 5 overlapping the sides and secured thereto by the screws or pins 6. The compound mold is divided into a number of individual mold spaces or compartments 7, 8, and 9 separated by the vertical removable partitions 10 held in grooves in the inner faces of the sides 1 and 2. The base or bottom board 11 on which the sides, the ends, and the partitions rest, forms the bottom wall of the compound mold.

As the mold compartments are identical in construction except that the outer end walls of the compartments 7 and 9 are formed by the ends 3 and 4 instead of partitions, compartment 7 only will be described in detail. This compartment is bounded laterally by the sides 1 and 2, the end 3, and the partition 10.

One building block that can be made in compartment 7 is shown in Figs. 3 and 4. It comprises the two lateral parts 12 tied together in spaced relation by the tie-rod 13 and the tie-plate 14 near the opposite ends of the block. I prefer that at least one of the ties shall be a plate-rod to provide the block with a stronger resistance to twisting strains. The tie-plate has its ends provided with flanges which anchor it firmly in the block. It will be noted from Fig. 4 that the tie-plate has the central recess 15 positioned between opposing faces of the parts 12 of the block.

Each of the sides 1 and 2 have attached thereto a sheet-metal core member 16 in the form of a frustrum of a pyramid. One core is attached to each side 1 and 2 and projects horizontally into the compartment 7 with their opposing smaller ends in mutual engagement. The tie-rod 13 rests in grooves 17 in the smaller ends 18 of the core members.

As the core members in each compartment are identical, only one will be described. The opposing sides 19 of the core member 16 form mold walls for the opposing faces of the block shown in Fig. 3. Blocks 20 are secured by the screws 21 to the inner faces of the sides 19 at their outer ends. These blocks have near their end vertical slots 22 which receive the headed screws 23 screwed into the adjacent inner face of the side 1. The inner faces of the blocks 20 are each provided with a pair of screws 24 for rigidly fastening to the blocks the triangular metal loops 25, each having one angle projecting into the space between the two blocks. 26 is a horizontal shaft rotatable in the side 1 and provided at its inner end with the loop 27 which is interlooped with the two inner angles of the loops 25 as shown in Figs. 2 and 6. The shaft 26 is operated by the handle 28 beyond the outer face of the side 1. The blocks 20 are slidable upon and guided by the screws 23.

The inner face of the side 1 is provided with the two ribs 29 whose lower faces are in contact with the upper ends of the sides 19 of the core member 16. The depth of the inclined ribs 29 decreases toward the shaft 26

so that when the two core members 16 in the compartment 7 are placed with their ends 18 against each other, the outer ends of the side 19 of the mold members will ride upon the inclined ribs 29 and force the two mold members toward each other causing their ends 18 to be without any space between them for the reception of concrete.

Small angle-plates 33 are secured to the inner faces of the sides 1 and 2 and form stops against which the sides of the extensions 30 engage when the core members 16 are fully expanded. They prevent cement from entering the core members.

The upper and lower faces of the mold member 16 are somewhat narrower than the space between the sides 19 whereby extensions 30 are formed, the base of one extension having the groove 17 and the other extension receiving the tie-plate which follows the contour of the extension as shown in Fig. 9. The upper and lower ends 31 of the extensions 30 are distant continuations of the sides 19. These ends which lie at the top and bottom of the compartment 7 overlap as shown in Figs. 1, 2, and 5. These ends slightly overlap the upper and lower edges of the side 1.

When a block like that shown in Fig. 3 is to be made, the two core members are assembled end to end in the compartment 7 as shown in Fig. 1 between the sides 1 and 2 and the end 3 and a partition 10, the tie-rod 13 being held between the two core members and the lower ends of the extensions 30 fitting the recess 15. The handle 28 is turned to cause the sides of the loop 27 to operate against the opposing faces of the blocks 20 and force the blocks 20 outwards with the sides 29 outwardly along the inclined ribs 29. The loop 27 stands squarely across the space between the two blocks 20 and locks them in their spaced relation. Wet cement is then poured into the compartment 7 at both sides of the core which is composed of two core members 16. When the cement has properly set, the ends 3 are removed from the mold and the two handles 28 in the sides 1 and 2 are rotated to cause the loop 27, by acting in the inner angles of the loops 25 as shown in Fig. 2, to pull the two blocks 20 toward each other whereby the sides 19 are detached from the building block cast in contact therewith. The sides 1 and 2 are then pulled away from the blocks, the core members coming out with the sides.

While I have described in detail only a single mold compartment and a single core member it will be readily understood that the other compartments 8 and 9 can have assembled therein core members 16 with their tie-rods and tie-plates 14 so that building blocks may be cast in the compartments 8 and 9.

Fig. 7 shows a mold compartment for casting the block shown in Fig. 8. The construction of the core members 16′ is the same as that for the core members 16 except that the opposing ends of the core members 16′ are spaced apart so that the web 32 of the block shown in Fig. 8 may be cast integral with the two members 12′ of the block. The tie-rod and the tie-plate are not employed.

I claim:

1. In a mold, opposite sides therefor, a core member carried by each side, the core members being constructed and arranged to have their inner ends abutting when the mold is assembled, and the opposite sides of the core members being movable toward and away from each other, means for forcing the said sides of the core member away from each other, and means cooperating with the sides of the mold and the core members to force the inner ends of the core members tightly together when the sides of the core members are forced away from each other.

2. In a mold, a side therefor, a core having two opposite sides movable toward and away from each other, a block attached to the inner face of each core-side at its outer end, pins inserted through slots in the blocks and anchored in the side of the mold and having heads to connect the blocks to the side of the mold, the slots guiding the blocks and sides of the core in their movements toward and away from each other, a loop carried by each block and projecting toward each other, a shaft extending into the side of the mold and having a loop interlooped with the loops in the block for actuating the blocks toward each other, and means for operating the shaft.

In testimony whereof, I hereunto affix my signature.

ALBERT BRUCKNER.