Sept. 30, 1958 W. R. VAN HOOK 2,853,763

APPARATUS FOR MANUFACTURING MOLDED BUILDING UNITS

Filed Dec. 18, 1950

Fig. 1

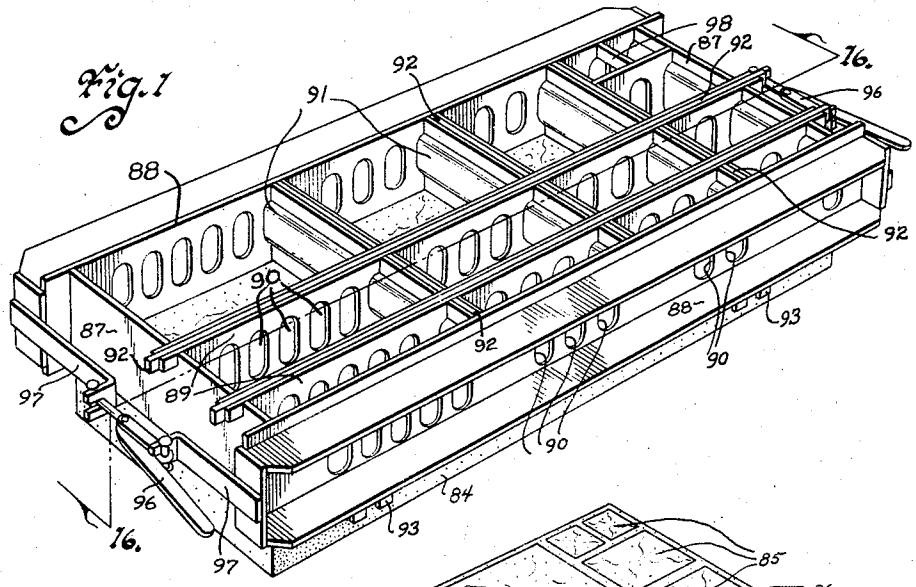


Fig. 2

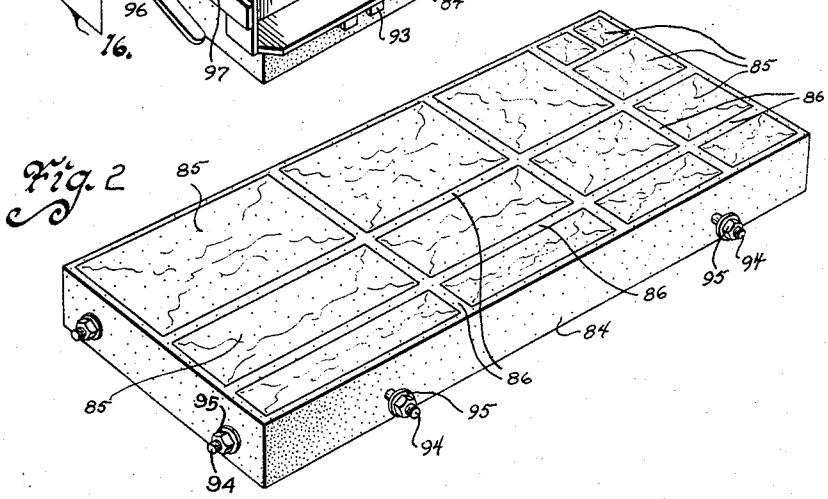
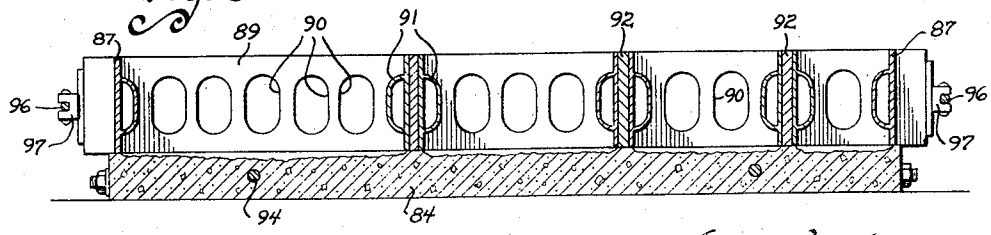


Fig. 3



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APPARATUS FOR MANUFACTURING MOLDED BUILDING UNITS

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1 Claim. (Cl. 25—121)

My invention relates to the art of manufacturing molded building units of the type known to the art as concrete blocks, cement blocks, light weight aggregate blocks and the like.

The object of this invention is to provide a mold box for casting building blocks that is easily assembled or disassembled.

A further object of my invention is to provide a mold box that is economical in manufacture and durable in use.

These and other objects will be apparent to those skilled in the art.

My invention consists in the construction, arrangement, and combination of the various parts of the device, whereby the objects contemplated are attained as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which:

Fig. 1 is an enlarged perspective view of the mold box used to form my building units,

Fig. 2 is an enlarged perspective view of the pallet on which the mold box is erected,

Fig. 3 is an enlarged cross-sectional view of the mold box on the pallet and taken on the line 3—3 of Fig. 1,

The mold box shown is one designed to mold building units having a relief design on one face thereof. The pallet designated **84** shown in Fig. 2 has the relief pattern **85** impressed thereon in reverse with rising divider sections designated **86** marking out the various block sizes. The mold box is made up of the end portions **87** which are held between the sides **88**. Dividers **89** separate the various blocks longitudinally. These dividers are provided with holes **90** to receive core elements (not shown). Between the blocks are the fixed core dividing elements **91** which are spaced apart by spacer boards **92** as are the dividers **89**. The end members **87** have notches to receive the top end projections of the dividers **89**. The members **91**, **98** and the inside of the ends **87** have a longitudinally centrally located raised portion extending laterally therefrom, as shown in Fig. 1. On the lower portion of each side member **88** extend the centering holding ears **93** which slidably embrace the bolts **94** of the pallet member. The ears may be frictionally held in place by the nut and bolt assembly **95** being tightened on them. The two side members are held together and clamped with end pieces between them by means of a lever clamp **96** engaging the hook bars **97**. The hook bars are rigidly secured to the side pieces at one end and are engaged by the clamp at the other. In the upper right hand corner of the mold box is a fixed partial divider element **98** that is left in place during the curing of the block. The reason for leaving element **98** in place is to

support the two very small blocks that are molded in that corner until they have been cured and are therefore strong enough to permit handling without support.

The balance of the mold box is used only while the blocks are being formed as will be explained more fully under the heading of operation.

To provide air spaces within the finished block which give the block insulating qualities as well as lightness, core elements are extended through the mold box before the aggregate from which the blocks are made is placed in the mold box through the openings **90**.

Once the mold box is in position with the cores temporarily fixed in place, aggregate is loaded into the mold.

First, of course, the mold box and pallet must be assembled into a single unit. This operation is most easily and conveniently accomplished by two people working together. The two mold box side-pieces **88** are first assembled along side the pallet **84** with the ears **93** on the side pieces arranged to engage the bolts **94** to help position the side pieces accurately with respect to the pallet. The end pieces **87** are then clamped in place by means of the lever clamps **96** engaging hook bars **97**. Dividers **89** are then arranged in the mold box and the spacers **92** driven down to secure the dividers in place and to space them out for a purpose which will be clearer when the removal of the mold box from around the blocks is described.

After the aggregate has been tamped and the cores withdrawn, the mold box is ready for disassembly. Some appropriate means of supporting the pallet and mold box at the opposite ends and the mold box with the exception of the fixed divider **98** is then moved as follows:

The spacer members **92** are removed from between the dividers **89** and this permits sufficient lateral movement of the dividers to clear the sides of the formed blocks. The clamps designated **96** are released and the side and end pieces gently removed which leaves the dividers free to be moved just slightly in a lateral direction and then slidably withdrawn from the formed blocks. When all the removable dividers have thus been taken off the blocks, the completed moldings are left standing on the pallet which is then placed in a curing room by any suitable means as a rolling dolly or the like, and the blocks are cured in a manner known to any artisan skilled in the trade.

Some changes may be made in the construction and arrangement of my apparatus for manufacturing cast building units and method of making same without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claim, any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim:

In a mold box for use with an apparatus for manufacturing molded building units, a pallet having projections extending therefrom, sides capable of engaging said projections to align said pallet and said sides, end pieces fitting between said side pieces adjacent the ends of said pallet; said end pieces having notches therein, means for clamping said side pieces together to frictionally hold said end pieces; a pair of longitudinal dividers extending between said end pieces and engaging said notches, a spacer element between said pair of dividers, at least one pair of lateral dividers extending between and frictionally engaging said side pieces, another spacer element between

said pair of lateral dividers; said lateral dividers each having a longitudinal centrally located raised portion that extends away from said spacer element in each instance; said side pieces and pair of longitudinal dividers having aligned holes therein.

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