C. HUTCHINS.

COLLAPSIBLE CORE.

APPLICATION FILED MAY 1, 1919.

1,363,651. Patented Dec. 28, 1920.

Fig. 4.

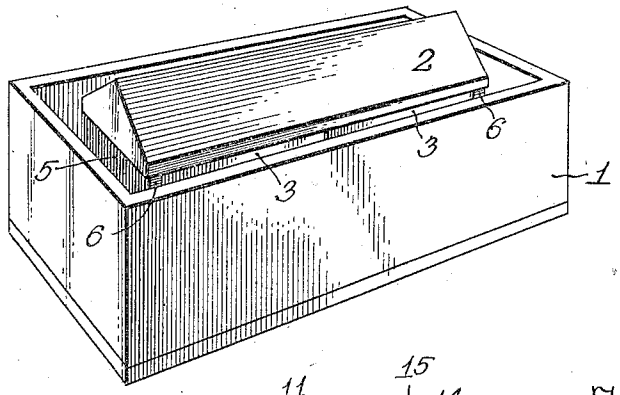


Fig. 1.

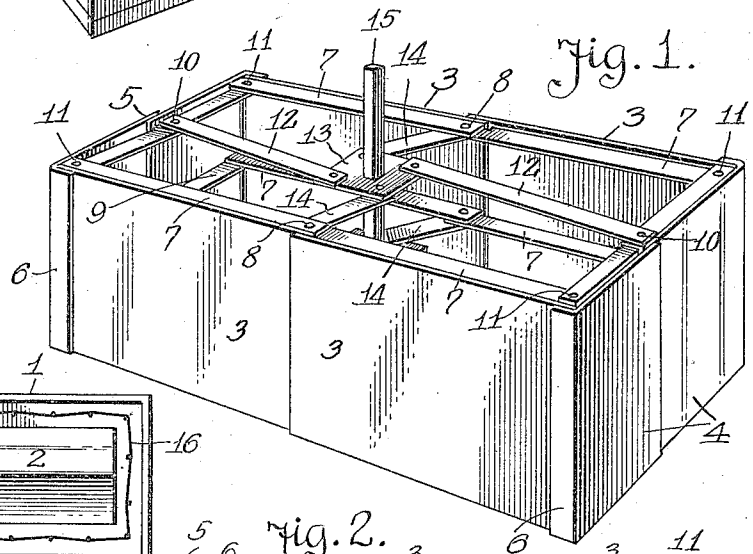


Fig. 5.

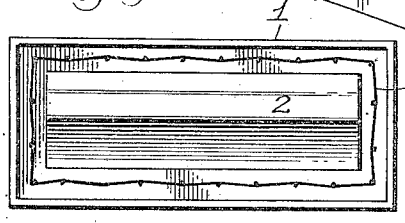


Fig. 2.

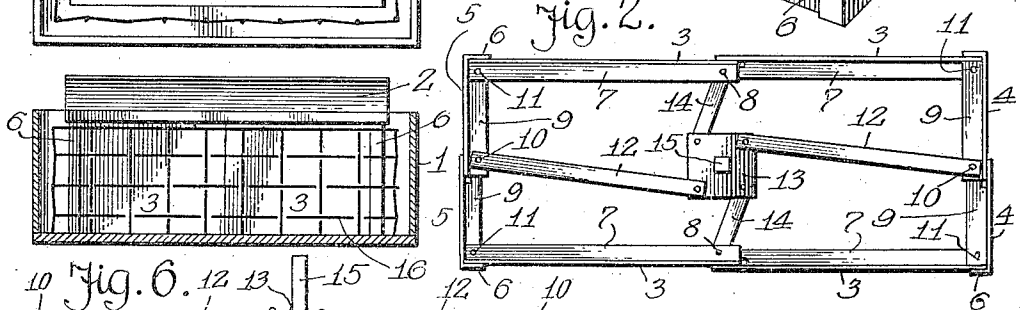


Fig. 6.

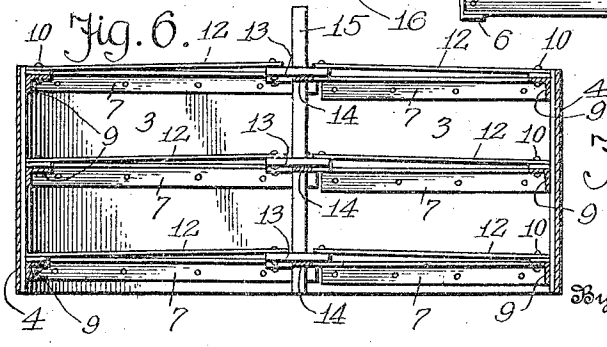


Fig. 3.

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UNITED STATES PATENT OFFICE.

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COLLAPSIBLE CORE.

1,363,651. Specification of Letters Patent. Patented Dec. 28, 1920.

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To all whom it may concern:

Be it known that I, COLIN HUTCHINS, a subject of the King of Great Britain, residing at Leamington, in the county of Essex, Province of Ontario, Canada, have invented certain new and useful Improvements in Collapsible Cores, of which the following is a specification, reference being had therein to the accompanying drawings.

The primary object of my invention is to provide a novel collapsible core that may be used in making hollow concrete blocks, walls and other structures, the core being designed so that it may be easily and quickly removed after concrete or other plastic material has set or solidified, and the removal of the core is accomplished without injury to the inner wall of the block or structure formed by the aid of the collapsible core.

A further object of my invention is to provide a collapsible core wherein positive and reliable means are employed in a manner as hereinafter set forth, for rigidly holding portions of the core against accidental collapse during the pouring of concrete or other plastic material, and provision is made for deflecting the plastic material to the outer walls of the mold during a pouring operation, so that the adjusting mechanism of the core cannot be injured by the poured material.

A still further object of this invention is to accomplish the above and other results by a simple, inexpensive, mechanical construction that will be hereinafter specifically described and then claimed, and reference will now be had to the drawing, wherein—

Figure 1 is a perspective view of the collapsible core;

Fig. 2 is a plan of one of the collapsible frames of the core;

Fig. 3 is a longitudinal sectional view of the core;

Fig. 4 is a perspective view of a mold with the core therein and a deflector on the core;

Fig. 5 is a plan of the same showing a metallic reinforcement in position within the mold, and

Fig. 6 is a longitudinal sectional view of the mold showing the metallic reinforcement about the collapsible core.

In the drawing, the reference numeral 1 denotes a conventional form of mold or outer shell into which concrete or other plastic material may be poured to produce a block that is rectangular in plan, but I would have it understood that this mold may be of any desired shape to produce a molded block or structure of desired contour.

In the mold is placed a collapsible core and to prevent plastic material from entering the core and in all probability interfering with a collapse of the same, the top of the core is covered by a deflector 2, which is somewhat similar to a ridge roof which will deflect poured concrete or other material to the sides of the collapsible core, the deflector being removed after a pouring operation, so that when the molded block has set, the core may be collapsed and withdrawn.

The collapsible core comprises sets of side plates 3 and sets of end plates 4, said plates being disposed to form the four walls of the core, and intermediate the ends of the core walls the plates 3 and 4 are overlapped, as at 5. The outer ends of the plate 3 are devoid of flanges, but the outer ends of the plates 4 are provided with flanges 6 so that the outer ends of the plates 3 will be braced thereby.

The inner walls of the side plates 3 and the inner walls of the end plates 4 are provided with superposed collapsible frames, preferably three in number, and as said frames are identical in construction, I deem it only necesary to describe one of said frames in detail and then consider the device by which all of said frames are actuated.

Riveted or otherwise connected to the inner walls of the side plates 3 are angle bars 7 having the ends thereof overlapped and pivotally connected together, as at 8, such pivotal connection permitting of the overlapped edges of the side plates being swung inwardly.

The inner walls of the end plates 4 have angle bars 9 with overlapped ends pivotally connected by pins 10, and the outer ends of the angle bars 7 and 9 are pivotally connected together by pins 11. It is therefore possible to retract the middle portion of the side and end walls of the collapsible core.

The pivot pins 8 and 10 support inwardly projecting links 12 and 14 and said links are pivotally connected to a turnable plate 13 which when turned is adapted to shift the links 12 and 14 and the side and end plates 3 and 4 with their respective angle bars 7 and 9.

The turnable plates 13 are fixed on a vertically disposed stem 15, which is preferably

rectangular in cross section with the upper end thereof protruding above the core, so that a wrench or other suitable instrument may be placed on the upper end of the stem to partially rotate the same.

When the collapsible core is placed in the mold 1 and the deflector 2 placed on the core, a suitable metallic reinforcement, generally designated 16 may be placed in the mold so that the walls of the block will be stiffened or have rigidity imparted thereto by the embedded metallic reinforcement, which may be in the form of wire netting, expanded sheet metal, twisted bars or any conventional form of metallic reinforcement.

Although I have described my concrete mold in connection with the manufacture of hollow blocks, it will, of course, be understood that it might be used for other purposes such as the making of hollow walls, windows and door frames, the only difference being to so proportion the mold as to make it adaptable for the particular use to which it is to be applied. For instance, in the making of a hollow wall it would, of course, be a device of considerable size so as to make a continuous hollow space within the wall, the device being otherwise exactly the same in construction.

What I claim is:—

The combination with two pairs of side plates located opposite each other and the plates of each pair having overlapping inner ends, two pairs of end plates located opposite each other and the plates of each pair having overlapping inner ends and flanged outer ends against which the outer ends of said side plates abut, angle bars secured to the inner walls of all of said side and end plates with some of said angle bars at the upper and lower edges of said plates and the other angle bars intermediate the upper and lower edges of said plates, all of said angle bars having lateral flanges pivotally connected at the junction of all of said side and end plates, turnable plates, links pivotally connected to said turnable plates and to the lateral flanges of said angle bars adjacent the overlapping ends of said side and end plates, and a stem common to all of said turnable plates.

In testimony whereof I affix my signature in the presence of two witnesses.

COLIN HUTCHINS.

Witnesses:
J. G. Haggith,
D. A. Chater.