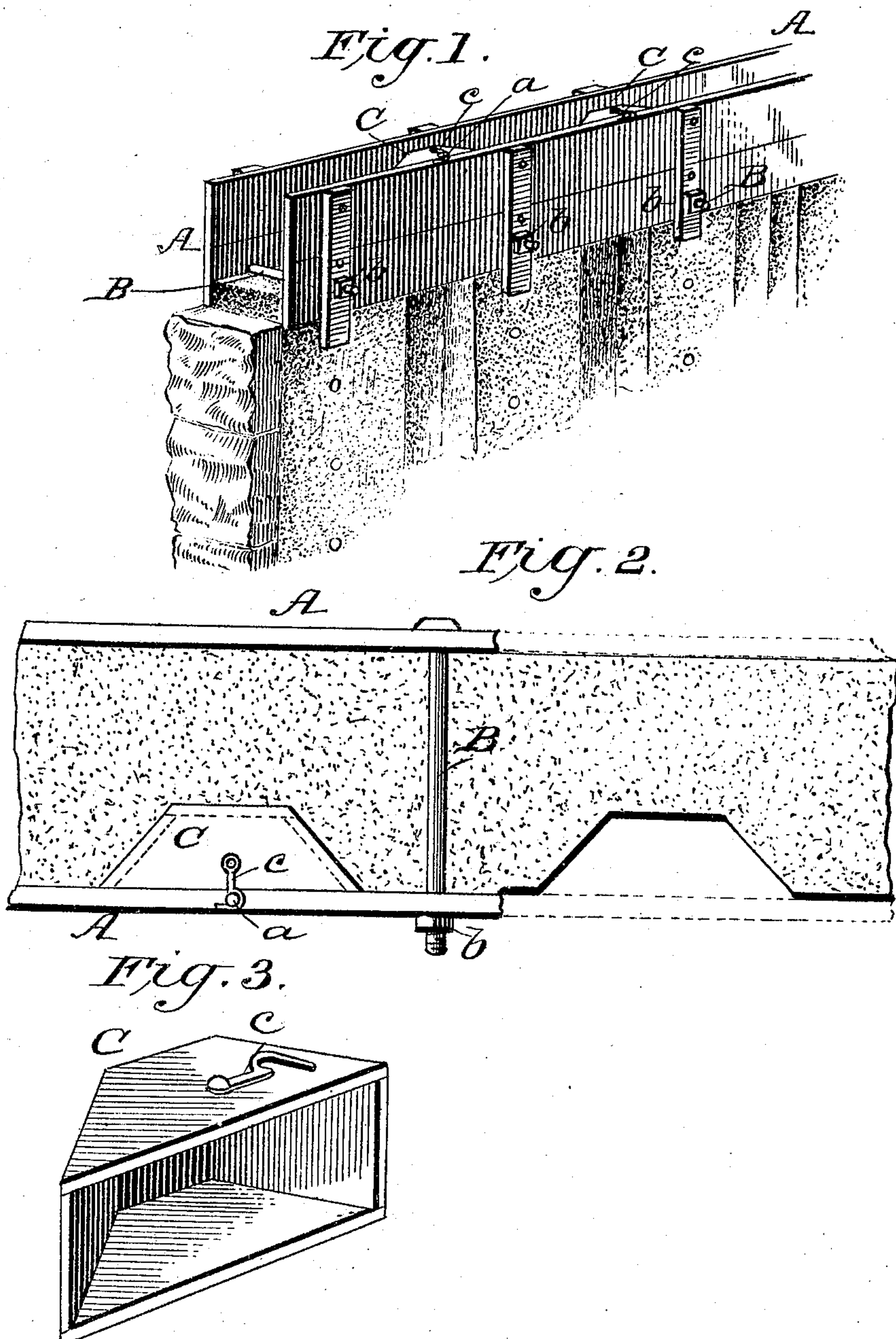


No. 805,883.

PATENTED NOV. 28, 1905.

C. E. RUSSELL.  
APPARATUS FOR FORMING CONCRETE WALLS.  
APPLICATION FILED JULY 21, 1905.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

COLONEL ELLSWORTH RUSSELL, OF CHICAGO, ILLINOIS.

## APPARATUS FOR FORMING CONCRETE WALLS.

No. 805,883.

Specification of Letters Patent.

Patented Nov. 28, 1905.

Application filed July 21, 1905. Serial No. 270,659.

*To all whom it may concern:*

Be it known that I, COLONEL ELLSWORTH RUSSELL, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented an Improved Apparatus for Forming Concrete Walls, of which the following is a specification.

The construction of cement or concrete walls has become very extensive.

10 My invention relates to improved means for building such walls and is embodied in the construction, arrangement, and combination of parts hereinafter described, reference being had to the accompanying drawings, in which—

15 Figure 1 is a perspective view of a concrete wall with my improved apparatus applied thereto in the manner required for building a wall. Fig. 2 is a plan view of the apparatus in place upon a wall, the side air-space in the latter being also shown. Fig. 3 is a perspective view of the core-box employed to form the side air flue or passage.

25 A indicates the sides or side boards comprising the main portion or body of a molding apparatus for forming a vertical wall. As shown in Figs. 1 and 2, these side boards are arranged vertically parallel, the distance apart corresponding to the thickness of the wall to be formed. They are secured in this position by means of bolts B, which pass transversely through them at points removed from the lower edge. The apparatus composed of these parts A B is shown applied to 35 a portion of a concrete wall already formed, the bolts resting upon the top of the wall, and thus supporting the said boards A in the required position. It will be noted that the portions of the boards which extend below the bolts B are in contact with the sides of the wall, and the nuts b, being screwed up on the threaded bolts, the boards A are held in firm contact with the wall, and thus supported vertically parallel, as required. In brief, when 45 thus placed the boards A form practically a trough adapted to receive and be filled with concrete, which thus forms a vertical extension of the wall. It is to be understood that the length and width of the boards A may be varied according to the conditions, but that in any case the bolts will pass through the boards at points far enough above their lower edges to afford the boards a due bearing on the sides of the vertical wall, since by this means the 55 boards are supported vertically when the bolts are tightened. The bolts pass loosely through

perforations in the boards, and the latter may be provided with transverse braces or stiffening-pieces at such points.

In order to form an air shaft or passage in 60 the wall, I employ a core-box C, which is open on one side and is preferably contracted or beveled at the opposite inner corners, as shown in Fig. 3. This core-box is arranged in the trough or space between the boards A 65 with its open side against the inner board, and it is supported in place while concrete is being filled in by means which permit its ready detachment, a hook being pivoted to the upper side of the box and adapted to en- 70 gage a nail or screw a inserted in the upper edge of the inner board. The hook not only serves to hold the core-box in place against the inner board, but prevents its falling down into the portion of the air-shaft which may 75 have been previously formed and yet permitting the core-box to be readily detached when required. The core-box C is placed in position after the boards A have been similarly placed on the wall, as illustrated in Figs. 1 80 and 2. Elongated core-boxes in the form of small rectangular tubes have been employed, the same being in practice set in the middle of the space between the sides of the troughs; but they require to be removed in a few mo- 85 ments after concrete is filled in; otherwise their removal is rendered difficult or impossible by the setting of the concrete. By constructing and arranging a core-box as described in this instance the box may be re- 90 moved without difficulty even when the concrete has set. The vertical air passages or shafts formed by the core-box applied in the manner described are on the inner side of the wall, and metallic laths are applied, so as to 95 extend transversely across the passage, the same being secured to wooden pegs or iron clasps inserted and secured in the holes in the wall which were previously occupied by the bolts B—that is to say, when concrete 100 has been filled into the trough arranged as in Figs. 1, 2, and has duly set, the nuts b are removed from the bolts and the latter drawn out or removed from the boards and the concrete, leaving the boards free, so that they 105 may be again placed in position and supported by the bolts upon the top of the last layer of concrete to receive the next instalment. If necessary, the holes formed in the concrete by the bolts on the outer side of the wall may be filled in with concrete. By form- 110 ing an air-space in the inner side of the wall,



as described, I effect a saving in concrete, a saving in the time usually required for removing cores, facilitate the tamping of the concrete layers in the trough, since there is  
5 more free space for use of tamping implements, and it is not necessary to hold the core-boxes in position manually. The core-boxes may also be removed much more easily and quickly than when constructed and arranged  
10 as usual heretofore and without destroying or affecting the setting and solidifying of the concrete, besides providing a larger air flue or space.

What I claim is—

15 The improved wall-building apparatus herein described, comprising parallel boards spaced apart a distance corresponding to the thickness of the wall, cross-bolts passing trans-

versely through the boards at points above their lower edges, and having nuts applied 20 thereto, the bolts serving to hold the said boards detachably connected and yet adapted for adjustment toward and from each other, the hollow core-box having its inner side open and arranged in contact with one of said 25 boards, and a device attached to the upper side of the core-box and engaging a pin set in the upper edge of said board whereby the core-box is supported detachably and adapted for lateral adjustment with the parallel boards 30 as required for walls of different thickness, as described.

COLONEL ELLSWORTH RUSSELL.

Witnesses:

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