May 21, 1946. B. C. STEVENSON 2,400,852

FORM FOR THE ERECTION OF RAMMED EARTH WALLS

Filed Oct. 19, 1944 3 Sheets-Sheet 1

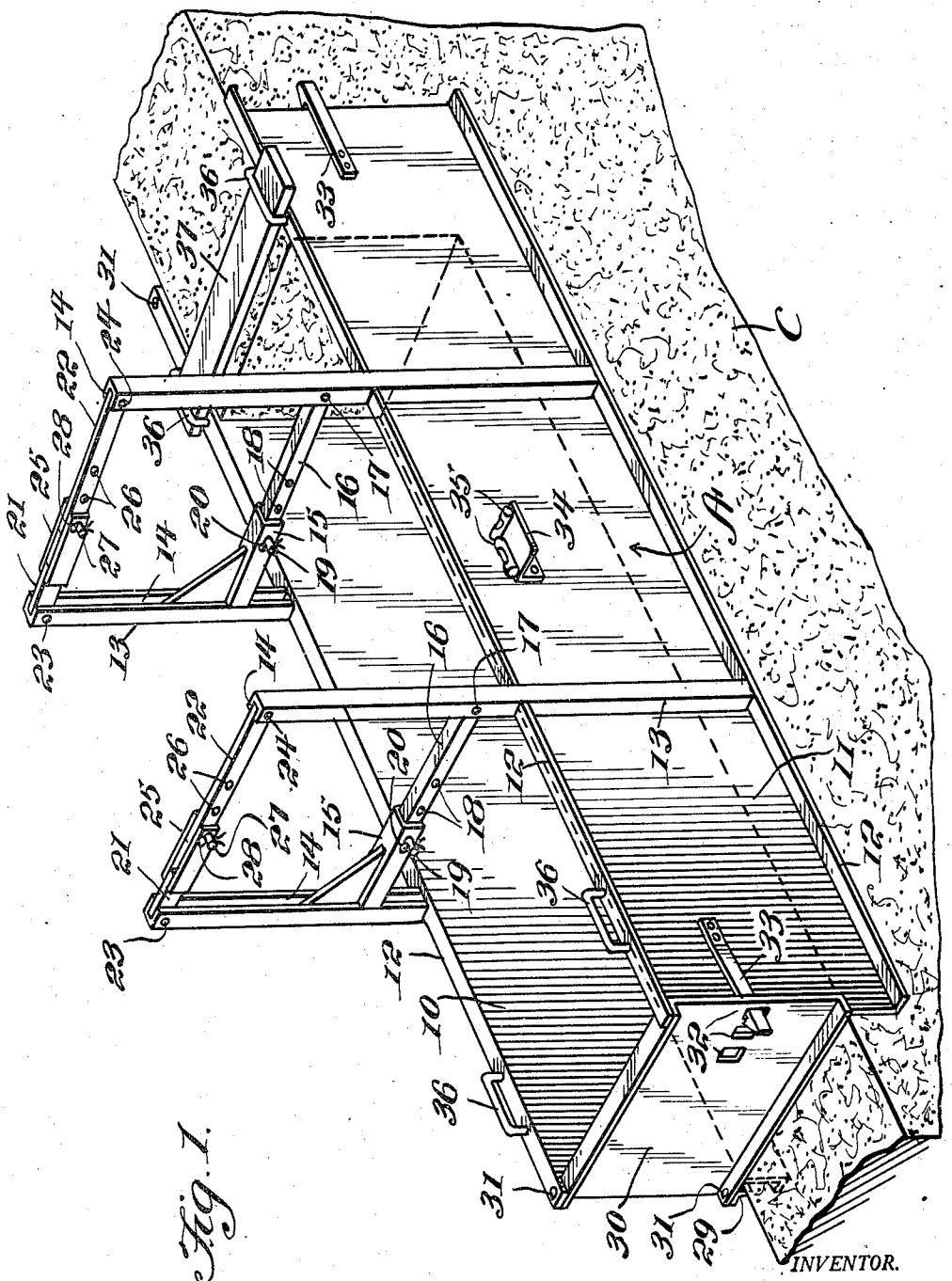


Fig. 1.

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FORM FOR THE ERECTION OF RAMMED EARTH WALLS

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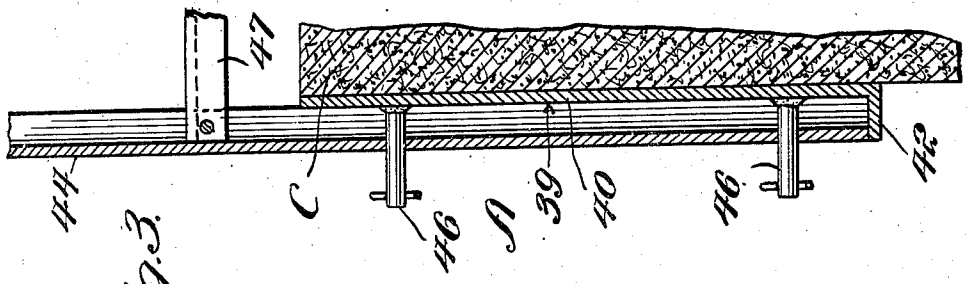


Fig. 3.

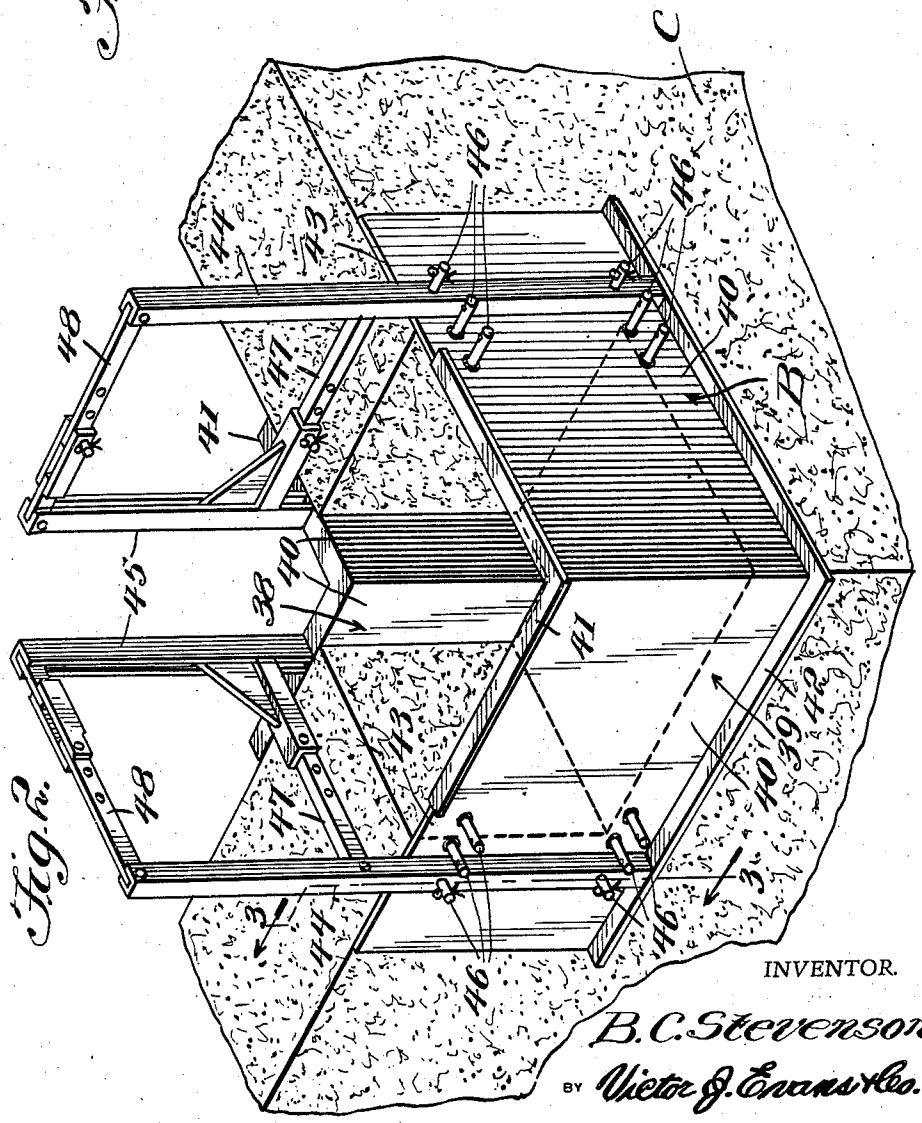


Fig. 2.

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Filed Oct. 19, 1944 3 Sheets-Sheet 3

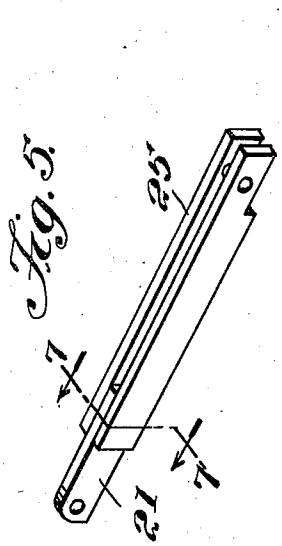


Fig. 5.

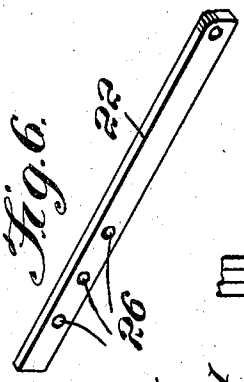


Fig. 6.

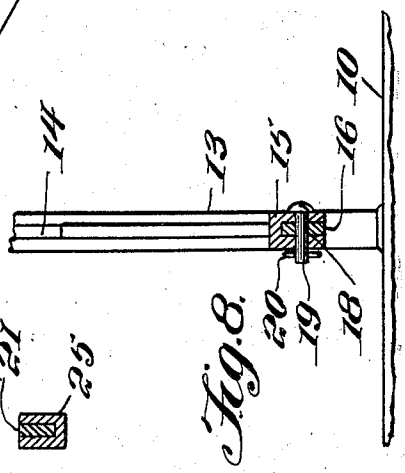


Fig. 8.

Fig. 7.

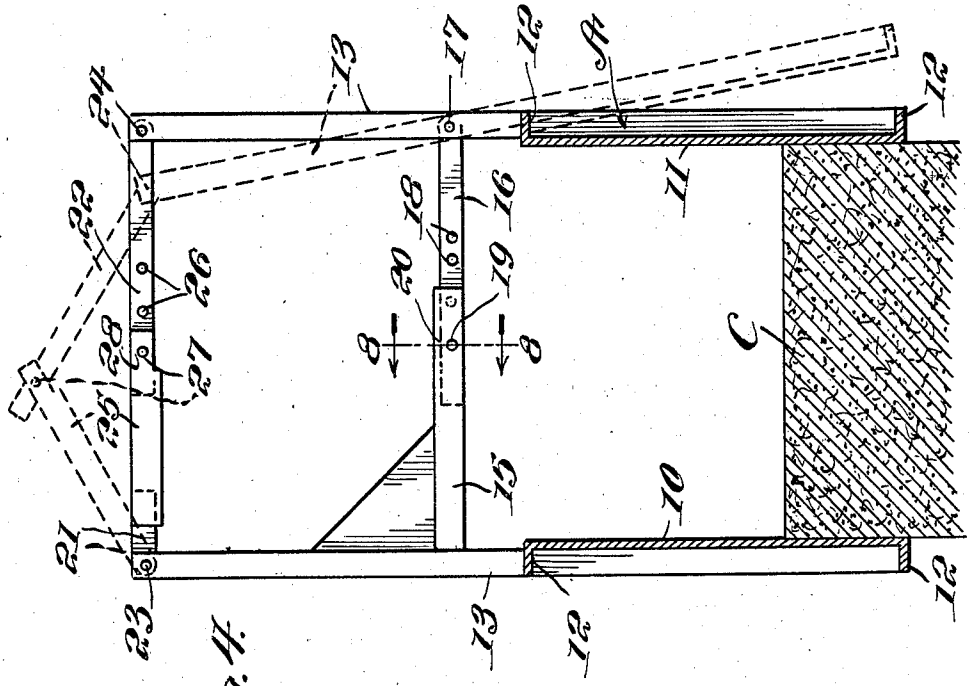


Fig. 4.

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Patented May 21, 1946 2,400,852

UNITED STATES PATENT OFFICE

2,400,852

FORM FOR THE ERECTION OF RAMMED EARTH WALLS

Burt C. Stevenson, Bloomington, Ind.

Application October 19, 1944, Serial No. 559,337

1 Claim. (Cl. 25—131)

The invention relates to wall building forms, and more especially to knockdown forms for building or erecting rammed earth walls.

The primary object of the invention is the provision of a form of this character, wherein rammed earth walls rather than masonry or wood, as commonly used in modern building construction, can be economically erected with precision and dispatch, and without the use of skilled labor, the form being sectional and of knockdown type to enable progress in the laying and erection of the wall in an easy and convenient manner.

Another object of the invention is the provision of a form of this character, wherein it, when knocked-down or collapsed, can be rendered compact for storage and transportation in the least possible space, and is readily and easily handled for the knocking down or collapsing thereof or for the erection.

A further object of the invention is the provision of a form of this character, wherein on the use of the same, the wall erected thereby will have smooth and even surfaces throughout, the form being novel in construction and unique in the assembly of its parts, these being few in number and are susceptible of interfitting one with the other.

A still further object of the invention is the provision of a form of this character, which is simple in construction, thoroughly reliable and efficient in operation, strong, durable, readily and easily handled with dispatch, assuring precision finish to a wall, its economic erection, and inexpensive to manufacture.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, which disclose the preferred embodiment of the invention constructed in accordance with the invention and in its erectional service, and pointed out in the claim hereunto appended.

In the accompanying drawings:

Figure 1 is a fragmentary perspective view of a rammed earth wall showing the form therefor constructed in accordance with the invention in applied position.

Figure 2 is a fragmentary perspective view of a corner area of the wall with the form in position for its erection.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2 looking in the direction of the arrows.

Figure 4 is a fragmentary vertical transverse sectional view through the straight wall run of the form.

Figure 5 is a detail perspective view of the adjustable break-joint connection at the uppermost portion of the form.

Figure 6 is a perspective of a part thereof.

Figure 7 is a sectional view taken on the line 7—7 of Figure 5 looking in the direction of the arrows.

Figure 8 is a sectional view taken on the line 8—8 of Figure 4 looking in the direction of the arrows.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, A designates generally the straight run of the form constituting the present invention, and B denotes the corner run thereof, these being hereinafter described in detail and their manner of use for erecting a rammed earth wall C in building construction.

The straight run structure A comprises a pair of horizontally spaced side panels 10 and 11, respectively, which may be of any required length and are flat-faced, excepting that the outermost faces thereof at the top and bottom edges are formed with out-turned flanges 12, which extend laterally therefrom throughout their extent. At the outermost faces of the panels 10 and 11 and intermediate of the ends of the latter, are upstanding standards or posts 13, which join with the lowermost flanges 12 and intersect the uppermost flanges, to rise at a determined elevation above the said panels. The standards or posts 13 above the panels 10 and 11 are provided with inside channels 14, which open through the upper ends of such standards or posts for the interfitting of the upper and lower breakjointed cross connections, each lower one of which includes a channel member 15, fixedly united with each of the posts or standards 13 on the panel 10, and a coupling member 16. Each member 16 is swingingly connected to each of the other posts or standards 13 on the panel 11 by a pivot 17 and is provided with spaced holes 18 for the selective engagement therein of an adjusting pin 19 fitting the member 15 when the member 16 is seated in its channel, and in this manner the spreading and swinging of the panel 11 with respect to the panel 10 may be accomplished or had. The pin 19 is equipped with a cotter 20 for holding it in place. The upper cross connections include a pair of short and long link-like

members 21 and 22, respectively, these being swingingly attached to the standards or posts 13 on the panels 10 and 11 by pivots 23 and 24, respectively. The members 21 each is formed with a forked end 25 for receiving the end next thereto of the member 22, which has spaced holes 26 therein to be selectively engaged by a coupling pin 27 fitting the forked end 25 and carrying a cotter 28. These upper and lower break-jointed connections in their adjustment are shown by full and dotted lines in Figure 4 of the drawings.

The uppermost flanges 12 of the panels 10 and 11 are extended a slight distance beyond the opposite ends of the latter, and the proper distance below the upper flanges on the panel 10 at its ends are pivot ears 29 for the swinging connection of end gates 30 by pivots 31 thereto. Each gate is provided with keeper latch holes 32 therein for the selective adjustment of a spring latch 33 on the panel 11, so that such gate can be held in end closing position when the form run A is erected for service in the building of the rammed earth wall C, as best seen in Figure 1 of the drawings.

The panel 11 at its outer face, medially thereof, is provided with a shelf 34 having thereon spirit levels 35, these being for longitudinal and transverse levelling purposes in the use of the form structure.

The panels 10 and 11 at their upper flanges 12 are provided with loop stirrups 36 for the application of a cross stand board or rest plank 37, as is best seen in Figure 1 of the drawings.

The corner run structure B comprises the corner side panels 38 and 39, respectively, which involve wing formations 40 at right angles to each other to each panel. Each panel 38 and 39 has the upper and lower out-turned edge flanges 41 and 42, respectively. The upper flange 41 of the panel 39 is cut-away from the ends of the latter to provide clearances 43 for the outer upstanding standards or posts 44 companions to the upstanding inner standards or posts 45, the latter being made fast to the wings 40 of the panel 38, while the standards or posts 44 are detachably and adjustably connected to the wing formations of the panel 39 coupling pegs 46 fixed thereto and projected outwardly therefrom. The standards or posts 44 and 45 have the upper and lower break-jointed cross connections 47 and 48, respectively, which are identical to those hereinbefore described with respect to the straight run structure A.

The manner of use of the corner run form structure B is best seen in Figures 2 and 3 of the drawings.

When the straight run and corner run structures A and B, respectively, are set upon a foundation for the building of a vertical wall made from rammed earth, the latter is poured into such structures and tamped full therewith, the straight run structure being progressively set according to the length of the wall for erection which is carried forth in a layer after layer vertical direction throughout such longitudinal extent, the wall corner formation being had by the structure B, its use being best seen in Figure 2 of the drawings.

From the foregoing, it is thought that the construction and manner of use of the run structures A and B for the building of a rammed earth wall C will be clearly understood, and therefore, a more extended explanation has been omitted for the sake of brevity.

Changes, variations and modifications may be made in the invention without sacrificing any of the advantages thereof, as may fall within the scope of the claim hereunto appended, without departing from the spirit of the said invention.

What is claimed is:

A building form of the kind described comprising straight run structures, having a pair of horizontally spaced side panels, upstanding posts at the outer faces of the panels, break jointed adjustable cross connections between the posts above the panels, swinging end gates on said structure, loop stirrups at the uppermost portion of the panels, a rest plank releasably engaging a pair of said stirrups adjustable latching means, mounted on said structure for said end gates, and an outwardly extending flange on the bottom and top edges of said panels said upper flange being recessed to accommodate said upstanding posts.

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