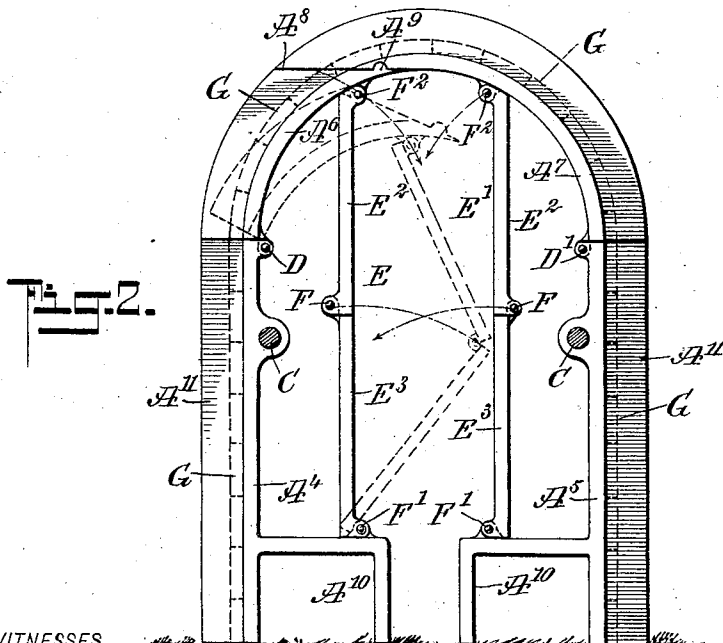
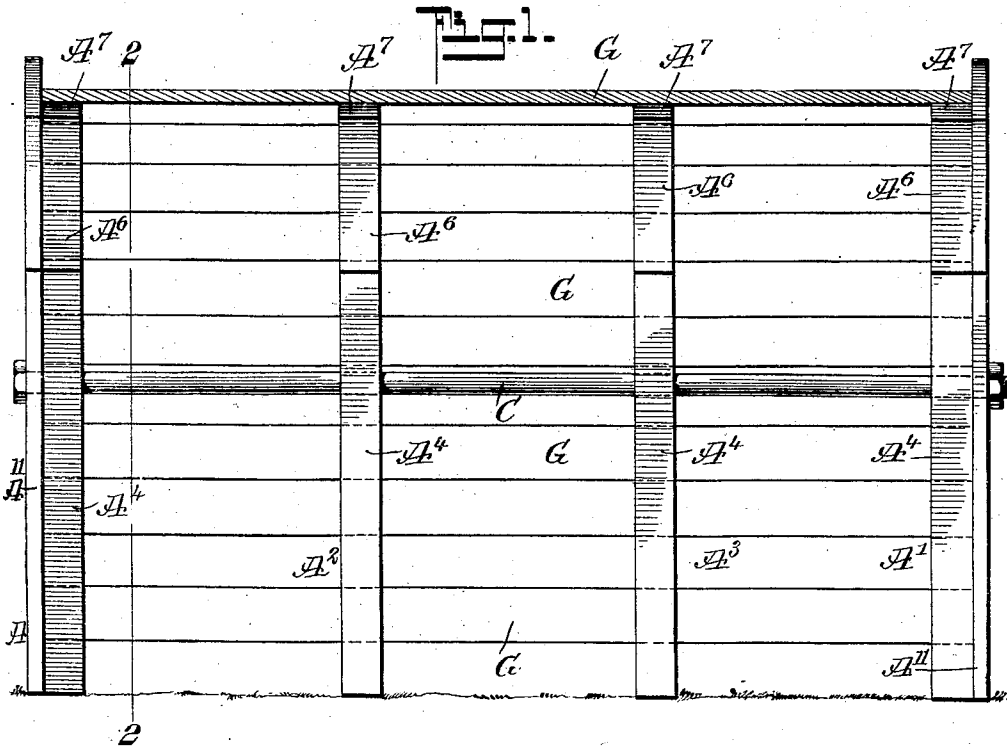


No. 854,524.

PATENTED MAY 21, 1907.

E. F. PARCAUT.  
SUPPORTING STRUCTURE FOR BUILDING CULVERTS AND THE LIKE.

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WITNESSES  
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# UNITED STATES PATENT OFFICE.

EDWARD FRANK PARCAUT, OF SUTHERLAND, IOWA.

## SUPPORTING STRUCTURE FOR BUILDING CULVERTS AND THE LIKE.

No. 854,524.

Specification of Letters Patent.

Patented May 21, 1907.

Application filed March 28, 1906. Serial No. 308,472.

*To all whom it may concern:*

Be it known that I, EDWARD FRANK PARCAUT, a citizen of the United States, and a resident of Sutherland, in the county of O'Brien and State of Iowa, have invented a new and improved Supporting Structure for Building Culverts and the Like, of which the following is a full, clear, and exact description.

The invention relates to cement or concrete structures, and its object is to provide a new and improved supporting structure for building culverts and the like of cement, concrete or other material, the supporting structure being arranged to permit of quickly and conveniently building the culvert and to allow ready removal of the supporting structure after the concrete or cement has set and hardened.

The invention consists of novel features and parts and combinations of the same which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement, part being shown in section; and Fig. 2 is a transverse section of the same on the line 2—2 of Fig. 1.

The supporting structure consists essentially of the end arches A, A' and the intermediate arches A<sup>2</sup>, A<sup>3</sup>, connected with each other by longitudinal rods C, as plainly illustrated in the drawings. Each of the arches A, A', A<sup>2</sup> and A<sup>3</sup> consists of abutment members A<sup>4</sup>, A<sup>5</sup> set at their lower ends on planks or other foundation pieces, and to the upper ends of the said abutment members A<sup>4</sup>, A<sup>5</sup> are hinged the arch members A<sup>6</sup>, A<sup>7</sup> by hinges D and D', arranged to allow the arch members A<sup>6</sup>, A<sup>7</sup> to swing inwardly after the concrete or cement has set and hardened. The ends of the arch members A<sup>6</sup>, A<sup>7</sup> are connected with each other by an approximately horizontal joint A<sup>8</sup>, and one of the ends of the arch members, the member A<sup>6</sup>, as shown in the drawings, is provided with a lug A<sup>9</sup> engaging a corresponding recess in the member A<sup>7</sup>.

By the arrangement described, the arch members A<sup>6</sup>, A<sup>7</sup> are held in an extended position and against lateral movement by the lug A<sup>9</sup> engaging the recess above mentioned, but

in order to properly support the members A<sup>6</sup> and A<sup>7</sup>, braces E and E' are provided, each made in two sections E<sup>2</sup>, E<sup>3</sup>, connected with each other by hinges F', and to allow of folding the sections E<sup>2</sup>, E<sup>3</sup>, as indicated in dotted lines in Fig. 2. The lower sections E<sup>3</sup> of the braces E and E' are connected by hinges F' with legs A<sup>10</sup> forming integral parts of the abutment members A<sup>4</sup>, A<sup>5</sup>, the said legs A<sup>10</sup> extending inwardly, as plainly indicated in Fig. 2. The upper ends of the sections E<sup>2</sup> of the braces E and E' are connected by hinges F<sup>2</sup> with the inner faces of the arch members A<sup>6</sup>, A<sup>7</sup>, so that when the braces E and E' are in an extended or vertical position, then the arch members A<sup>6</sup>, A<sup>7</sup> are properly braced to sustain a desired load. When it is desired to fold the structure, it is only necessary to first swing the brace E into a folded position, so as to swing the arch member A<sup>6</sup> inwardly (see dotted lines in Fig. 2), and then in a like manner the brace E' is folded to swing the other arch member A<sup>7</sup> inwardly. As the two members A<sup>6</sup>, A<sup>7</sup> are then disconnected from each other and folded inwardly, it is evident that the structure can be readily removed from under the finished culvert or other structure.

The end arches A, A' are provided at their outer sides with flanges A<sup>11</sup> against which about the ends of planks G covering the outer surfaces of the several arches A, A', A<sup>2</sup> and A<sup>3</sup>, as will be readily understood by reference to Figs. 1 and 2. It is understood that after the supporting structure has been set up, and the planks G are in place, then the cement or concrete can be readily applied to the outer surfaces of the planks G, and when the cement or concrete has set, then the supporting structure is knocked down by folding the braces E and E', and arch members A<sup>6</sup> and A<sup>7</sup>, as previously described, to allow removal of the arches, as well as the planks G.

The supporting structure shown and described, is very simple and durable in construction, composed of but few parts, which can be readily set up to form a culvert of a desired cross section and length.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A supporting structure for building arches comprising abutment posts, arch members hinged to the abutment posts and joined together at or near the top thereof by a substantially horizontal joint, one of the faces of

the joint being provided with a groove and the other with a lug fitting into the groove, and foldable braces hinged to the arch.

5 2. A supporting structure for building arches, comprising abutment posts, inward projections on the abutment posts, arch members hinged to the abutment posts and joined together at or near the top of the arch, and foldable braces hinged to the arch members  
10 and to the inward projections.

3. A supporting structure for building arches, comprising abutment posts having flanges and legs, flanged arch members hinged to the upper ends of the said posts and joined  
15 together at or near the top of the arch, and braces one for each arch member, each brace being made in sections hinged together and hinged to the said legs and the said arch members.

20 4. A supporting structure for building arches, comprising abutment posts having flanges and legs, flanged arch members hinged to the upper ends of the said posts and joined together at or near the top of the arch, one of  
25 the arch members having a lug fitting a groove in the other arch member, and braces one for each arch member, each brace being made in sections hinged together and

hinged to the said legs and the said arch members. 30

5. A supporting structure for building arches, comprising sectional flanged skeleton end arches, intermediate sectional non-flanged skeleton arches, longitudinal rods  
35 connecting the end and intermediate arches with each other, and planks covering the arches and abutting with their ends against the flanges of the said arches.

6. A supporting structure for building arches, comprising abutment posts, arch  
40 members adapted to turn on said abutment posts and separable near the top of the arch, and a collapsible brace between each abutment post and the adjacent arch member.

7. A supporting structure for building  
45 arches, comprising sectional skeleton end arches, intermediate sectional skeleton arches, and means for connecting the arches with each other.

In testimony whereof I have signed my  
50 name to this specification in the presence of two subscribing witnesses.

EDWARD FRANK PARCAUT.

Witnesses:

S. J. JORDAN,  
R. C. JORDAN.