

(No Model.)

J. W. OGLE.
CULVERT OR BRIDGE.

No. 542,531.

Patented July 9, 1895.

Fig. 1.

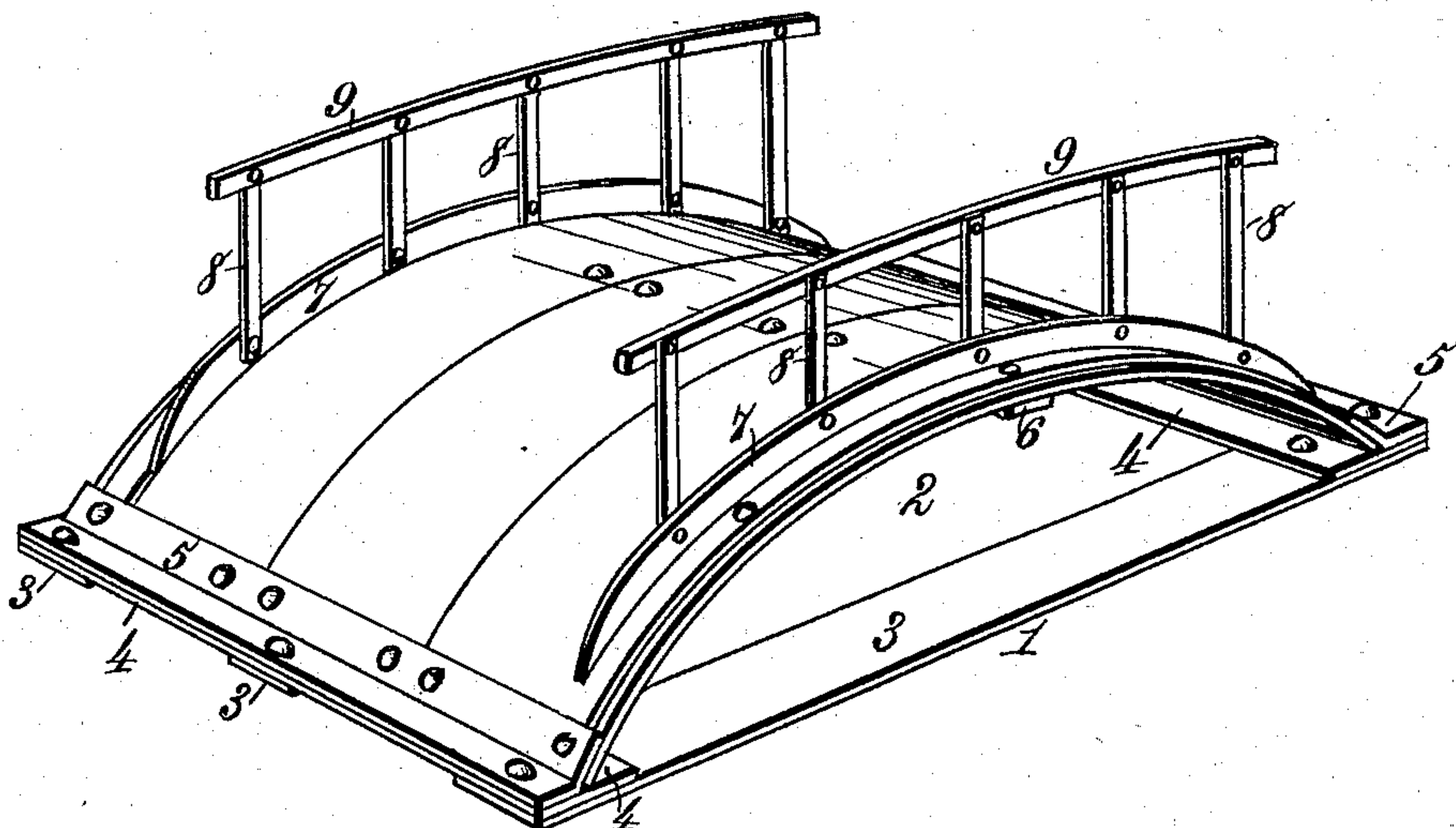


Fig. 2.

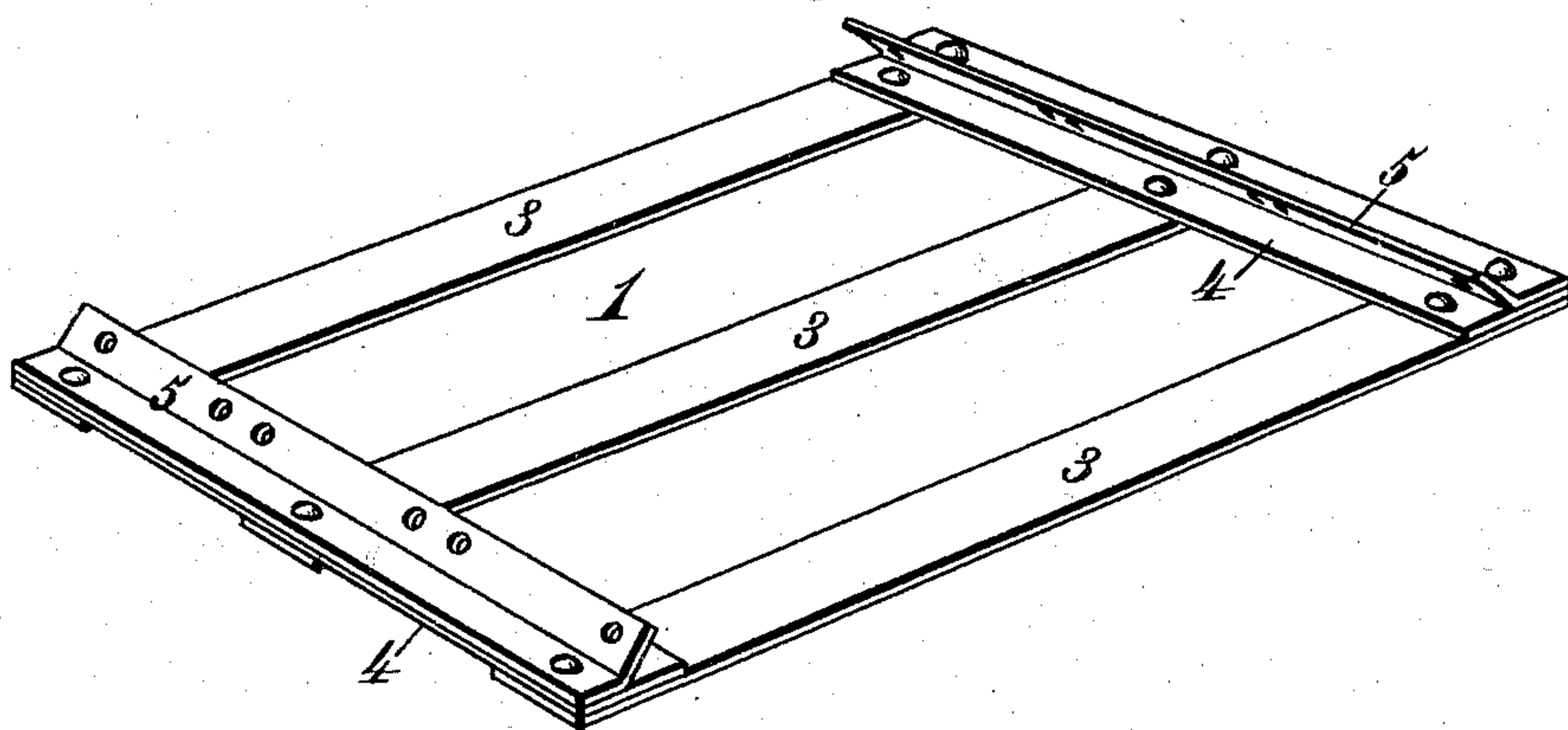
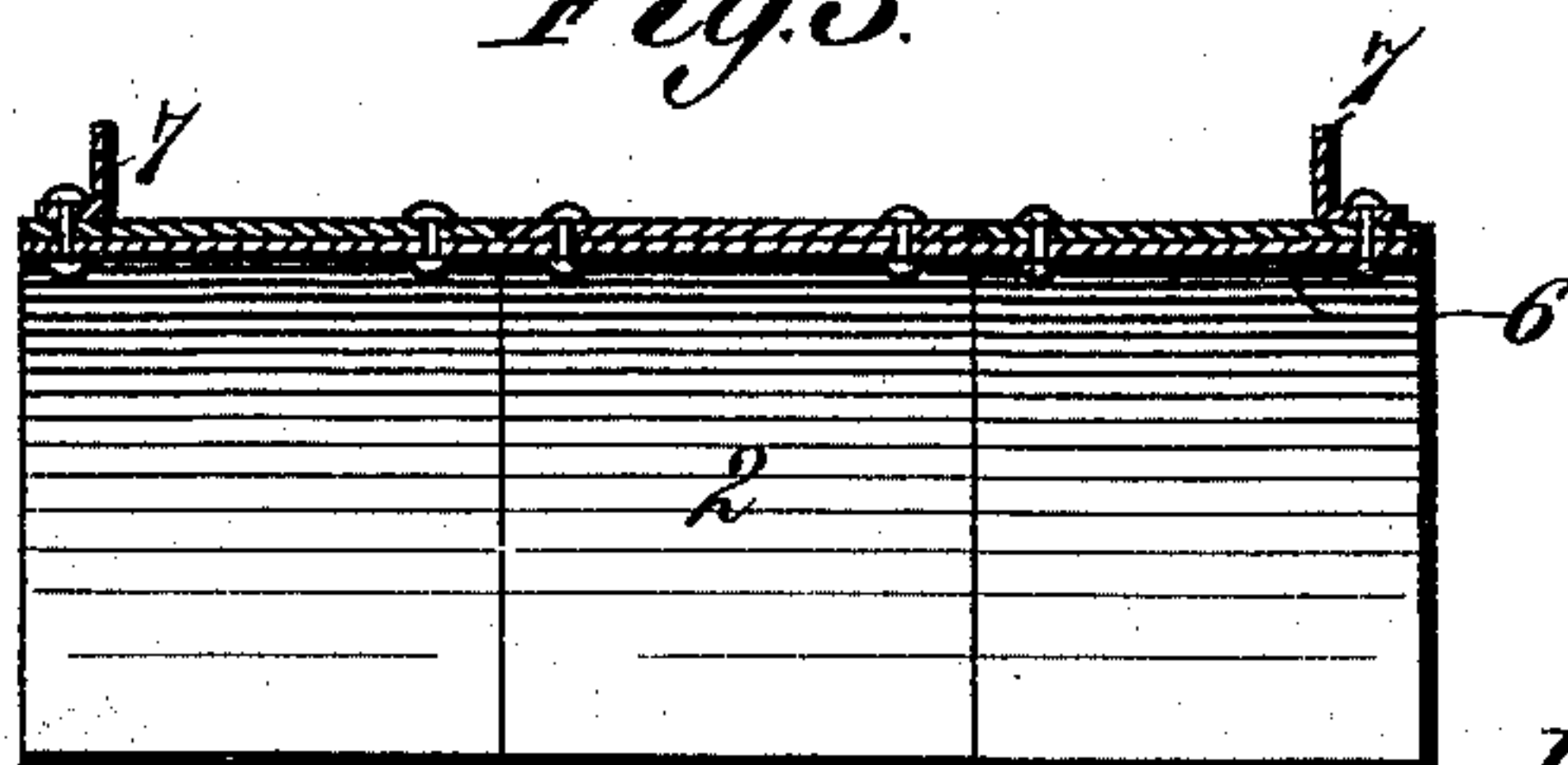


Fig. 3.



Witnesses.
Robert Smith.
G. W. Rea.

Inventor:
John W. Ogle.
By *James L. Norris.*
Atty.

UNITED STATES PATENT OFFICE.

JOHN W. OGLE, OF ARCADIA, ILLINOIS.

CULVERT OR BRIDGE.

SPECIFICATION forming part of Letters Patent No. 542,531, dated July 9, 1895.

Application filed February 8, 1895. Serial No. 537,722. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. OGLE, a citizen of the United States, residing at Arcadia, in the county of Morgan and State of Illinois, have invented new and useful Improvements in Culverts or Bridges, of which the following is a specification.

My invention relates to culverts or bridges, and has for its object to provide a culvert or bridge constructed of boiler-steel and securely bolted together throughout its several parts, so as to be easily and conveniently set in position and be capable of resisting the action of the elements.

The invention consists in the construction and combination of the parts of a culvert or bridge and its foundation, as hereinafter described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a perspective of my improved culvert. Fig. 2 is a view of the foundation for the culvert or bridge, the arch being removed. Fig. 3 is a sectional detail view.

Referring to the drawings, the numeral 1 designates the foundation or bed for supporting the arched bridge or culvert 2. The foundation for the culvert consists of the mudsills 3, arranged parallel with each other and connected by girders 4, that are extended at right angles to the mudsills and securely bolted thereto. The mudsills and girders are made from boiler-steel and may have any suitable or required dimensions, according to the situation in which the culvert is to be placed. On the top of and parallel with each mudsill is bolted an angle-bar 5, that is adapted to serve as an abutment for the adjacent end of the arched culvert. The mudsills 3 and superposed angle-bars or abutments 5 will each have a length corresponding with the proposed width of the bridge or culvert, and the distance between the mudsills will of course correspond with the space to be spanned by the culvert-arch.

The arch of the culvert or bridge 2 is constructed from plates of boiler-steel and may consist of several parallel arched sections, two, three, or more, according to the required width of the bridge or culvert. The ends of the arch or arch-sections rest against the angle-bar abutments 5 and may be bolted thereto, as shown. To the under side of the crown of

the arch is secured a stay beam or brace 6, that is extended across their lower sides and serves to securely fasten them together at the center and top of the culvert.

On each side of the top of the arch is secured an upwardly-extended flange or rim 7—say about six inches in height—which will serve to assist in holding in place the dirt or concrete with which the culvert is to be covered. The flanges 7 also afford attachment for standards 8, to which hand-rails 9 may be fastened. Instead, however, of securing the hand-rail standards to such flanges they may be bolted directly to the culvert-arch.

The foundation for the culvert may be placed in the bottom of the stream to be bridged. If a single culvert is employed, the span of the arch may be from four to fifteen feet; or a series of spans or culverts may be arranged in such manner as to constitute a bridge or culvert having a number of spans or arches. By employing a number of sections in each arch the bridge or culvert may be made any width required. The arch may be from twelve to thirty feet wide, more or less, or several culverts may be secured in position, side by side, to provide a bridge of any required width. In low marshy land the culverts may be used in place of piling. When several culverts are placed side by side, two or more may be supported upon the same mudsills, to which a proper length will be given for that purpose.

A culvert or bridge of this construction is easily put in place and may be readily removed for resetting or any necessary repairs. It will readily withstand jolts and jars, it is not liable to corrosion or wear, and if properly set it will remain firmly in position for a long period.

What I claim as my invention is—

1. In a culvert, the combination with the mudsills, the girders bolted to the mudsills, and the angle-bar abutments bolted to the tops of the mudsills, of the arch composed of boiler steel and bolted to said abutments, substantially as described.

2. In a culvert, the combination with the mudsills, girders and angle-bar abutments bolted together and composed of boiler steel, of the arch sections composed of boiler steel and having their ends bolted to said angle-

bar abutments, and the stay-beam or brace bolted to the under side of the crown of the arch and extended across the arch sections, substantially as described.

- 5 3. In a culvert, the combination with a boiler steel foundation composed of mudsills, girders and angle-bar abutments, all bolted together, of a boiler steel arch having its ends bolted to said abutments and provided on its
10 top, at opposite sides, with upwardly turned

flanges to retain the culvert covering and afford attachment for the standards of the hand rails, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of 15 two subscribing witnesses.

JOHN W. OGLE. [L. S.]

Witnesses:

J. L. SIMMS,

B. H. SKINNER.