

(No Model.)

W. S. PALMER.
BRIDGE.

No. 501,534.

Patented July 18, 1893.

Fig. 1.

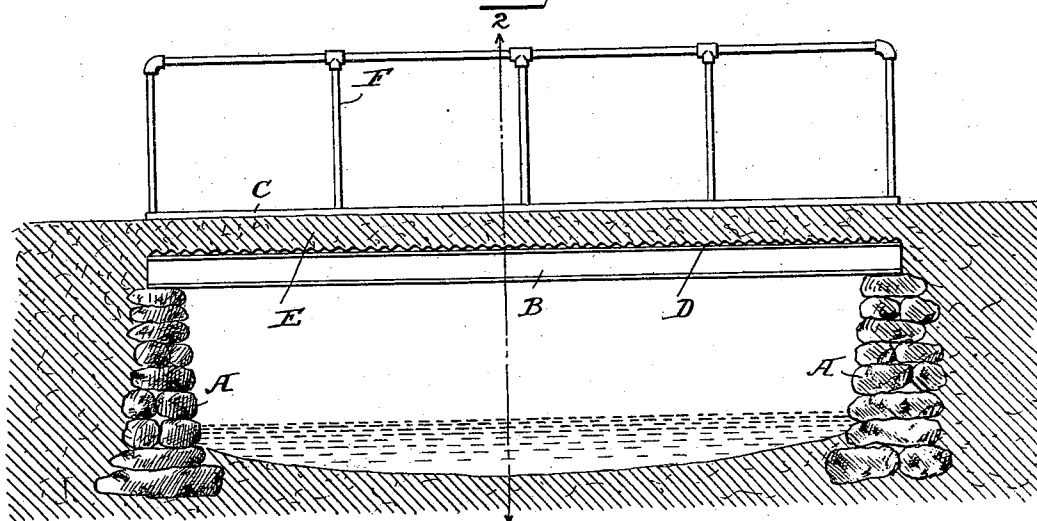


Fig. 2.

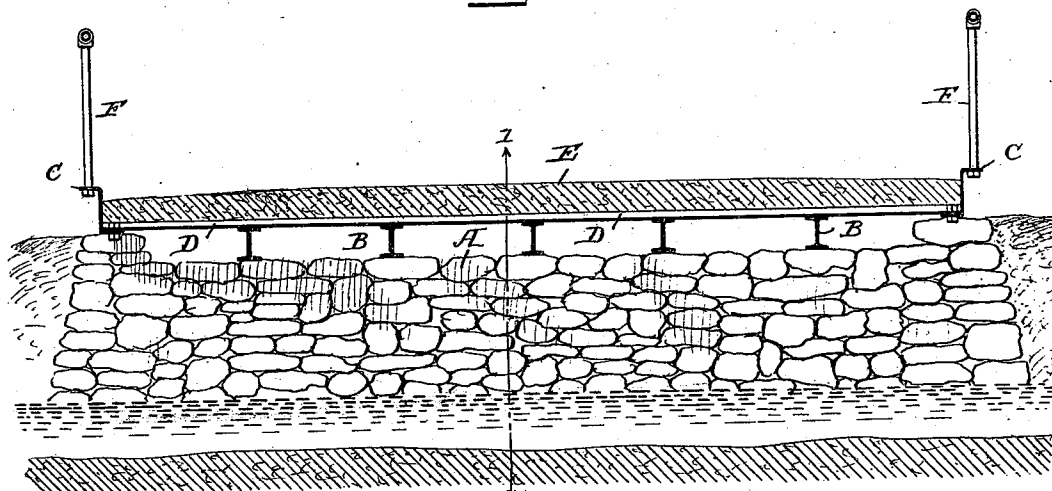
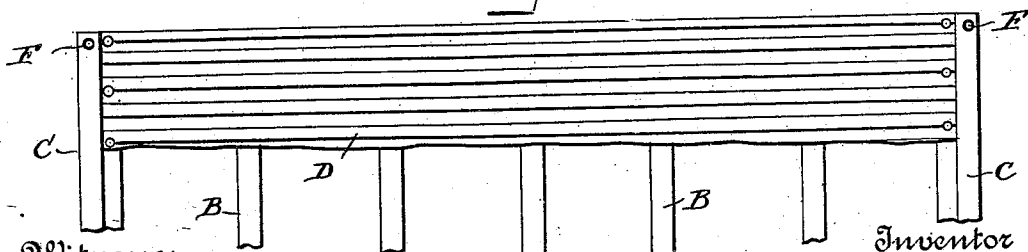


Fig. 3.



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BRIDGE.

SPECIFICATION forming part of Letters Patent No. 501,534, dated July 18, 1893.

Application filed February 27, 1893. Serial No. 463,944. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD SCOTT PALMER, a citizen of the United States, residing at Glenburn, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Bridges, of which the following is a specification.

My invention relates to bridges and it consists in a bridge which is simple and cheap in construction and especially adapted for country roads.

In the accompanying drawings in which like reference signs refer to similar parts throughout the several views, Figure 1 is an elevation in section taken on the line 1—1 of Fig. 2. Fig. 2 is a section upon the line 2—2 of Fig. 1, and Fig. 3 is a plan view of a portion of the iron work, the roadway material and part of the corrugated flooring being removed.

The common practice in building bridges for country roads is to use wooden trusses and wooden floorings for the smaller bridges, and for bridges of greater span iron trusses with wooden floorings are used. There are several objections to bridges of this class which it is the purpose of my invention to overcome. The wooden floorings are expensive and they soon decay, and if not kept in thorough repair they often form dangerous footing for horses and pedestrians. Another objection to wood is that on account of its rigidity the shock imparted to it by heavy teams in passing is transmitted directly to the supporting girders or trusses. To avoid the effect of the strain thus put upon the trusses it is customary to require horses to be driven not faster than a walk in crossing the bridges. Another objection to wooden floors is the unpleasant noise which is made in passing over them.

In my improved bridge I use a series of iron girders or I-beams resting at their ends upon the abutments of the bridge, the size and number of the girders depending upon the span of the bridge. Upon these girders rests a corrugated iron flooring having its lines of corrugation running at right angles to the girders. The outside girders are preferably J-shaped and the ends of the corrugated plates are attached to their lower flanges. These J-

shaped girders therefore extend above the corrugated iron and serve to retain the material of the roadway and to support a hand railing if it is thought best to have one. Upon this structure is laid a bed of the material of which the road is built, preferably crushed or broken stones such as used in making macadamized roads. This material should be eight inches more or less in depth according to the strength of the bridge and the kind of traffic for which it is used.

In the accompanying drawings, A—A indicate the abutments placed at each side of a water way or other opening.

B—B indicate the iron girders or I-beams, and C—C the side beams which are made preferably J-shaped. These latter beams however might be formed of I-beams or channel bars. Upon these beams rests the flooring D of corrugated iron having its corrugations at right angles to the beams. The ends of the corrugated flooring are riveted or bolted to the lower flanges of the side girders. They may if desired be riveted to the intermediate girders or I-beams but this is not usually found necessary. Upon the corrugated flooring is laid the bed of roadway material E which forms a continuation of the road.

Attached to each of the side pieces C may be a hand railing F for the protection of pedestrians.

The advantages of my improved bridge are the simplicity of its construction, which does not require skilled labor, and its strength, durability and cheapness. The road way is substantially the same on the bridge as on other parts of the road and there is nothing to rattle or make a disagreeable noise. It is not necessary that the corrugated iron should be as strong as the ordinary plank flooring for the reason that the road way material E distributes the impact of horses' feet and the weight of wheels over a considerable surface.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a road bridge the combination with the abutments, of a series of I-beams having their ends resting upon the abutments, a side beam above and at each side of the series of

I-beams, a layer of corrugated iron resting upon the upper flanges of the I-beams and upon the lower flanges of the side beams, and a layer of road way material resting upon the 5 corrugated iron, substantially as described.

2. In a road bridge the combination with the abutments, of I-beams B, Γ-shaped side beams C, corrugated sheet iron D having its ends connected to the lower flanges of the

side beams C, and the macadamized road bed to E resting upon the corrugated iron, substantially as described.

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

W. SCOTT PALMER.

Witnesses:

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KARL SCHOTTA.