L. LAUBSCHER.
Testing Bridges.

No. 210,864. Patented Dec. 17, 1878.

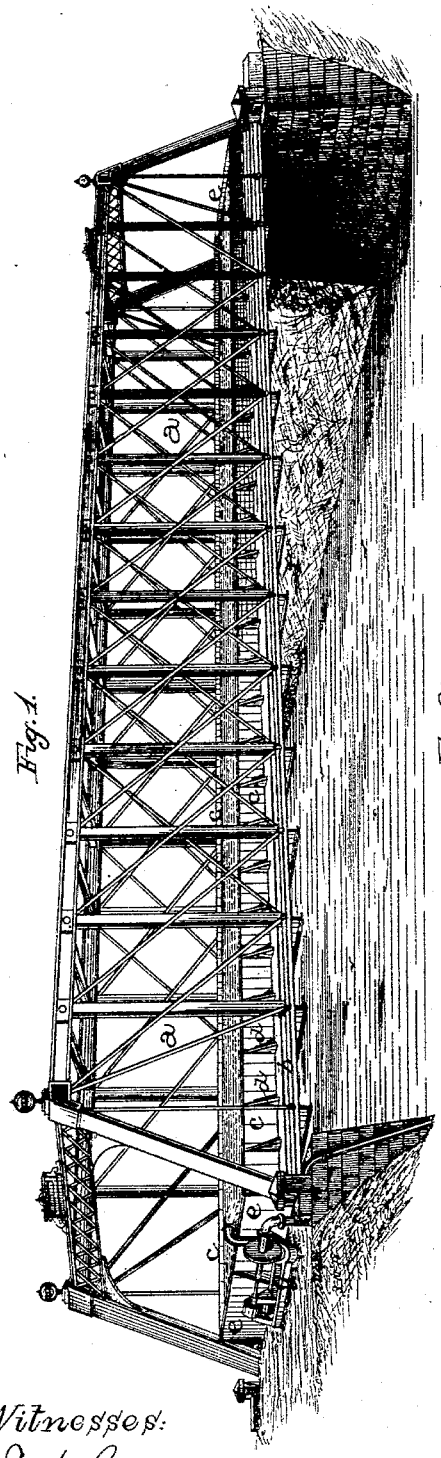

Fig. 1.

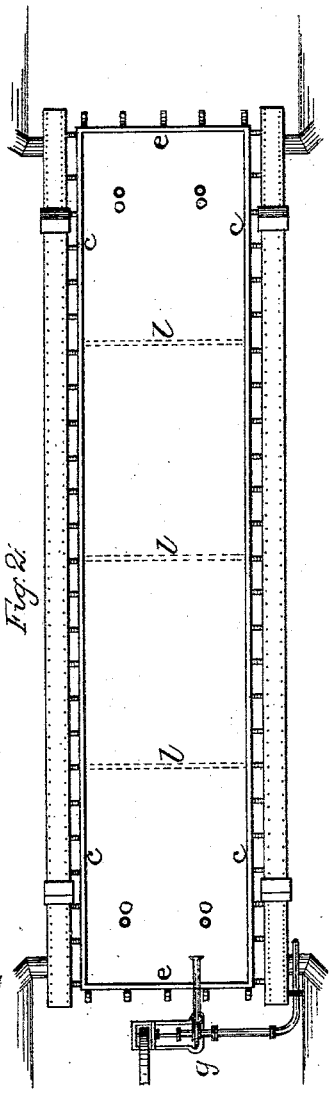

Fig. 2.

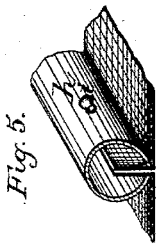

Fig. 5.

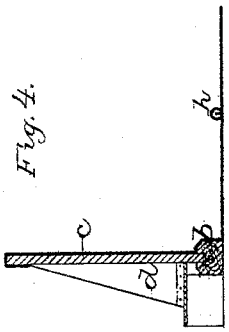

Fig. 4.

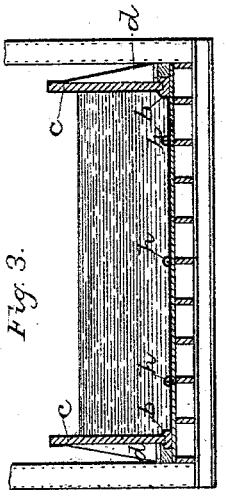

Fig. 3.

Witnesses:
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Atty

UNITED STATES PATENT OFFICE.

LOUIS LAUBSCHER, OF FORT WAYNE, INDIANA.

IMPROVEMENT IN TESTING BRIDGES.

Specification forming part of Letters Patent No. **210,864**, dated December 17, 1878; application filed October 14, 1878.

To all whom it may concern:

Be it known that I, LOUIS LAUBSCHER, of Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Testing Bridges with Water; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improved method of testing bridges and viaducts; and it consists in so preparing the bridge that it will form a sort of a box or reservoir from end to end, into which any desired amount of water can be pumped for the purpose of testing the bridge's strength.

It further consists in raising side and end boards on the bridge, and covering the entire inner surface of the box or reservoir thus formed with a water-proof cloth, rubber, or other similar material, so that the water pumped into the box will not run out.

Heretofore bridges have been tested by hauling sand, stone, pig-iron, and other such heavy substances upon it, until a given weight was reached; but this is not only a very slow and expensive job, but, in case the bridge does not stand the test and breaks down, life and valuble material are both apt to be lost. Where water is used it can be readily and quickly pumped upon the bridge and quickly drained off, without any risk of life being run.

Figure 1 is a perspective of a bridge in which my invention is embodied. Fig. 2 is a plan view of the same. Figs. 3, 4, and 5 are details.

a represents a bridge of any suitable construction, length, or material, and which spans entirely across the stream, from base to base, or from pier to pier. Secured to the top of the bottom pieces, *b*, are the walls *c*, which may be of any desired height, length, or material, and which are braced on their outer sides against the outward pressure of the water by the braces *d*. These walls are here shown as having their lower edges in grooves in the tops of the pieces *b*; but it is evident that the walls may be secured in position in any other suitable manner that may be preferred. At each end of the bridge there will be placed an end board or wall, *e*, and these four walls *c e* will form a reservoir of any suitable depth from one end of the bridge to the other, into which water is to be pumped from the stream below, for the purpose of testing the strength of the bridge, by means of the rotary or other suitable pump *g*.

In order to make the reservoir water-tight, the floor of the bridge and the insides of the walls are covered with rubber, water-proof cloth, or other suitable material. This material has its outer edges passed up over the tops of the side walls and tacked in place, while the edges of the pieces on the floor have their edges turned up, as shown in Fig. 5, and clamped between the edges of the circular clamps *h*. These clamps consist of long split tubes, and are provided with set-screws *i*, by means of which the clamps can be closed tightly on the upturned edges of the material between them.

Should the floor of the bridge be curved upward, as is frequently the case, division-boards *l* will be placed across the reservoir, as shown in Fig. 2, so that the water can be kept at a uniform depth all over the floor.

Near each end will be made holes *o*, controlled by valves or gates of any suitable kind, and through which holes the water can be quickly drained from the bridge whenever desired.

Having thus described my invention, I claim—

1. A bridge having a reservoir formed upon it by the erection of side and end walls, and which reservoir is to be filled with water as a means for testing the strength of the bridge, substantially as shown.

2. In combination with a bridge, the end and side walls, water-proof material for covering the inside of the reservoir, and suitable clamps to unite the edges of the material together, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of October, 1878.

LOUIS LAUBSCHER.

Witnesses:

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F. W. KUHNE.