(No Model.) 2 Sheets—Sheet 1.

B. T. BABBITT.

COMBINATION OF ELEVATED RAILWAY AND CANAL.

No. 255,235. Patented Mar. 21, 1882.

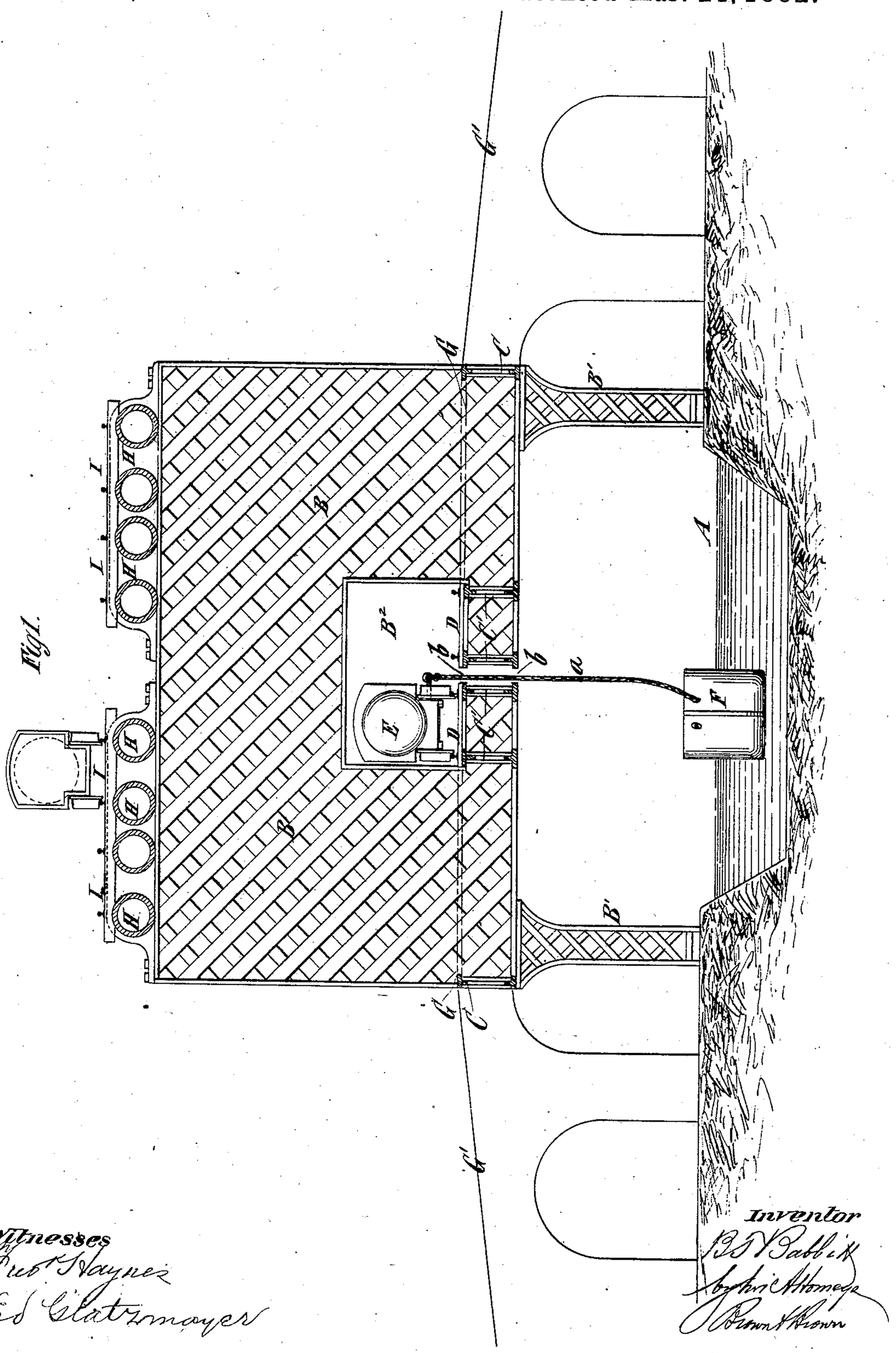

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2

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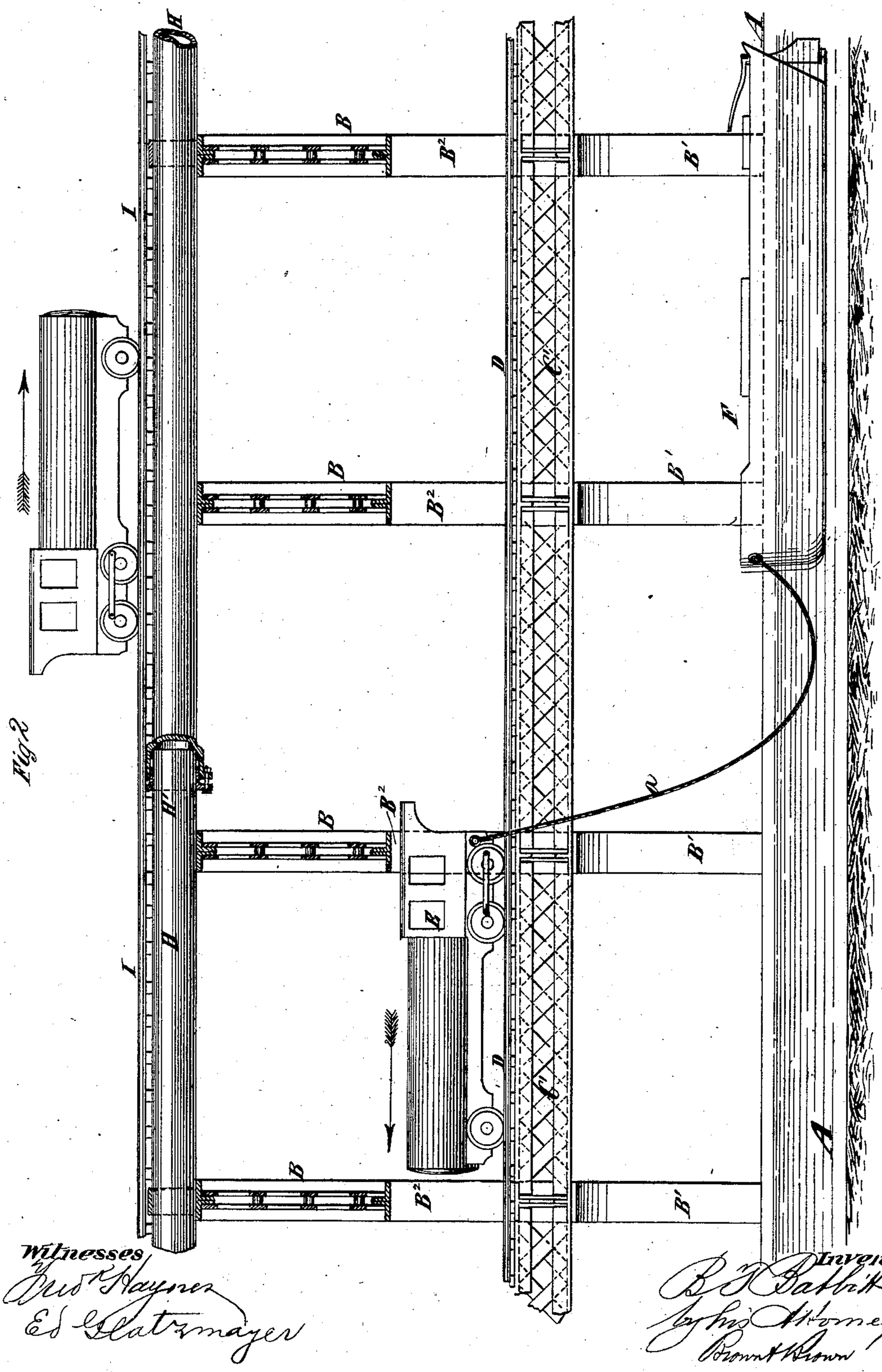
Fig. 2



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UNITED STATES PATENT OFFICE.

BENJAMIN T. BABBITT, OF NEW YORK, N. Y.

COMBINATION OF ELEVATED RAILWAY AND CANAL.

SPECIFICATION forming part of Letters Patent No. 255,235, dated March 21, 1882.

Application filed July 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN T. BABBITT, of the city and county of New York, in the State of New York, have invented a certain Improved Combination of Elevated Railway, Canal, and Air-Pipes, of which the following is a specification.

My invention relates to canals which are spanned by elevated-railway structures along which locomotives may be run for use in towing canal-boats.

The invention consists in the combination, with such canal and railway structure, of pipes or conduits arranged in or upon said structure and adapted to conduct compressed air from any locality along or near the canal where there is natural water-power, which may be employed to compress air to any distant locality, where the air may be employed as a motive agent for blowing-furnaces and other purposes; or, if desired, to tanks or reservoirs along the canal, from which the locomotives may be supplied with it to serve as a motive agent. These pipes or conduits for compressed air are preferably arranged side by side and serve as a road-bed for another railway track or tracks, as fully hereinafter described.

In the accompanying drawings, Figure 1 represents a transverse vertical section of a canal and railway combined in accordance with my invention, and Fig. 2 represents a longitudinal section thereof.

Similar letters of reference designate corresponding parts in both the figures.

A designates the canal along which boats are to be drawn, and over which is erected the structure supporting elevated-railway tracks.

B designates transverse beams or girders, which span the canal and rest at each end upon pillars or columns B′, which may be composed of wrought-iron of a form common in elevated railways. The beams or girders B are arranged at a proper distance apart, and are connected by outer longitudinal tie-beams or girders, C, and inner tie-beams or girders, C′, which support two railway-tracks or a double track, D D, upon which locomotives E travel. The locomotives E draw the boats F by means of cables or ropes *a*, and in order to provide for the passage of the ropes or cables as the boats and locomotives move along, the cross-beams or girders B are cut or divided below the tracks D D, so as to form a longitudinal way, channel, or passage, *b*, for the ropes or cables *a*. The transverse beams or girders B have in them openings B^2, through which the locomotives may pass, and as they are not continuous below said openings, because of the way or channel *b*, they must be of considerable depth above the openings to give them the necessary strength.

The beams or girders B, and also the longitudinal tie-beams or girders C C′, may all be formed of wrought-iron lattice-work, so as to combine lightness and strength.

Wherever it is desired to cross the canal and railway bridges may be constructed by flooring the railway structure on a level with the tracks D D, as at G, and building inclined approaches G′ upon opposite sides of the canal, and at said bridges the passage-way or channel *b* may be closed by flaps or valves, which will be readily deflected or turned aside by the ropes or cables A.

An elevated railway may be erected over any canal, as above described—such as the Erie canal, for instance—and the boats may be drawn at small cost and at a high speed without danger of washing the banks.

Frequently along the route of or near a canal are natural water-powers, which might be employed as a means of compressing air. For instance, Niagara Falls are near the Erie canal and would furnish an inexhaustible and almost unlimited water-power. I propose to compress air there, or in any other locality adjacent to the canal, and to conduct the air to distant places, where it may be utilized as a motive agent for blowing-furnaces or other purposes. I propose to employ pipes or conduits supported on or in the railway structure.

I have here represented two groups of four pipes or conduits, H, each arranged above the structure and supported upon the transverse beams or girders B. The pipes or conduits H should be continuous, and may be of any size necessary to conduct the required volume of compressed air.

In order to provide for expansion and contraction of the pipes or conduits H, I provide

each one, at intervals of about two hundred feet, (more or less,) with a slip or expansion joint, H′.

Instead of employing the compressed air for other purposes, a portion or all of it may be discharged into the tanks placed at a proper distance apart along the road, and the locomotives employed may be constructed to use it as a motive power, and may be supplied at such tanks when their supply becomes exhausted. This would also be advantageous, because the locomotives would then need no smoke-stacks and the openings B^2 in the beams or girders B might be lower and the whole structure reduced in weight.

The pipes or conduits H are here shown as arranged to form a road-bed, and upon each group of four may be laid a double-track railway, I, over which passenger-trains may be run.

The use of compressed air as a motive agent for the locomotives would still further decrease the cost of transportation.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a canal, of an elevated-railway structure spanning the canal, railway-tracks supported thereon immediately over the canal, and pipes or conduits supported on or in said structure, and adapted for conducting compressed air, substantially as and for the purpose herein described.

2. The combination, with a canal, of an elevated-railway structure spanning the canal, railway-tracks supported thereon immediately over the canal, pipes or conduits for conducting compressed air arranged in groups on said structure, and railway-tracks supported upon said pipes or conduits, substantially as and for the purpose herein described.

B. T. BABBITT.

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