

J. A. ATWOOD.

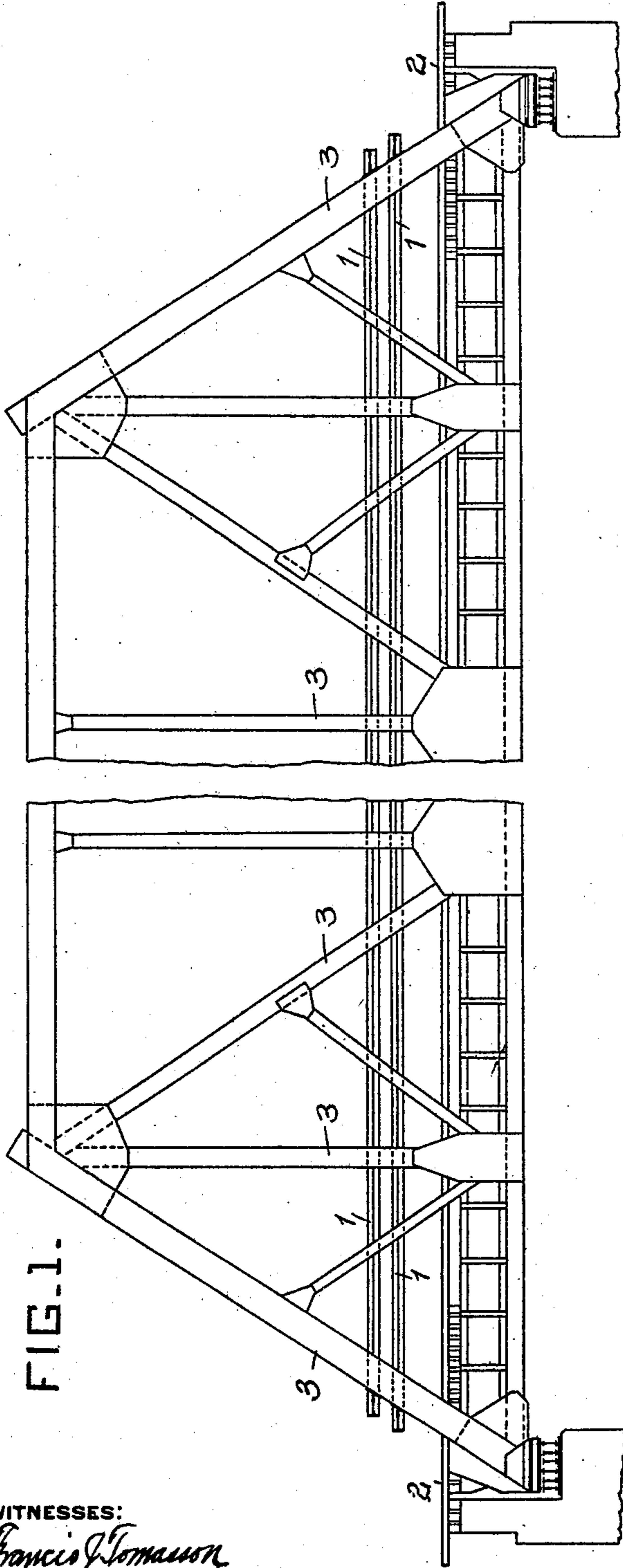
BRIDGE.

APPLICATION FILED MAY 27, 1908.

915,261.

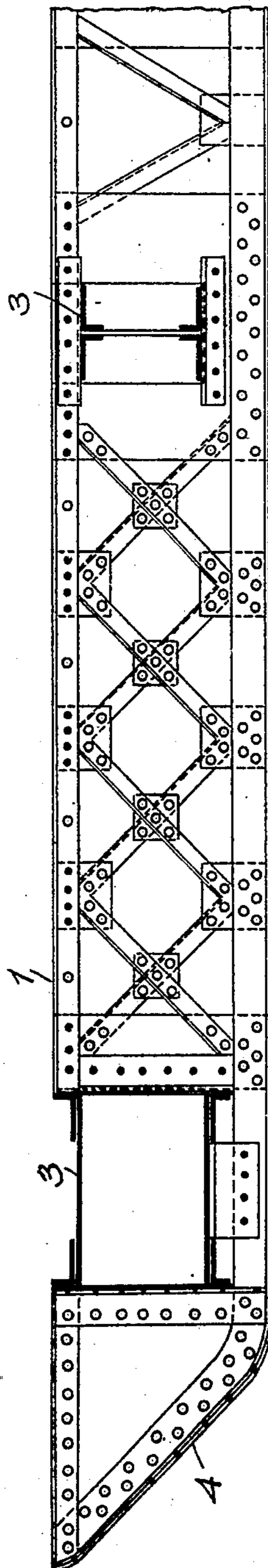
Patented Mar. 16, 1909.

2 SHEETS—SHEET 1.



WITNESSES:
Francis J. Tomasson
J. Herbert Bradley

FIG. 4.



John A. Atwood INVENTOR
by Christy and Christy Atty

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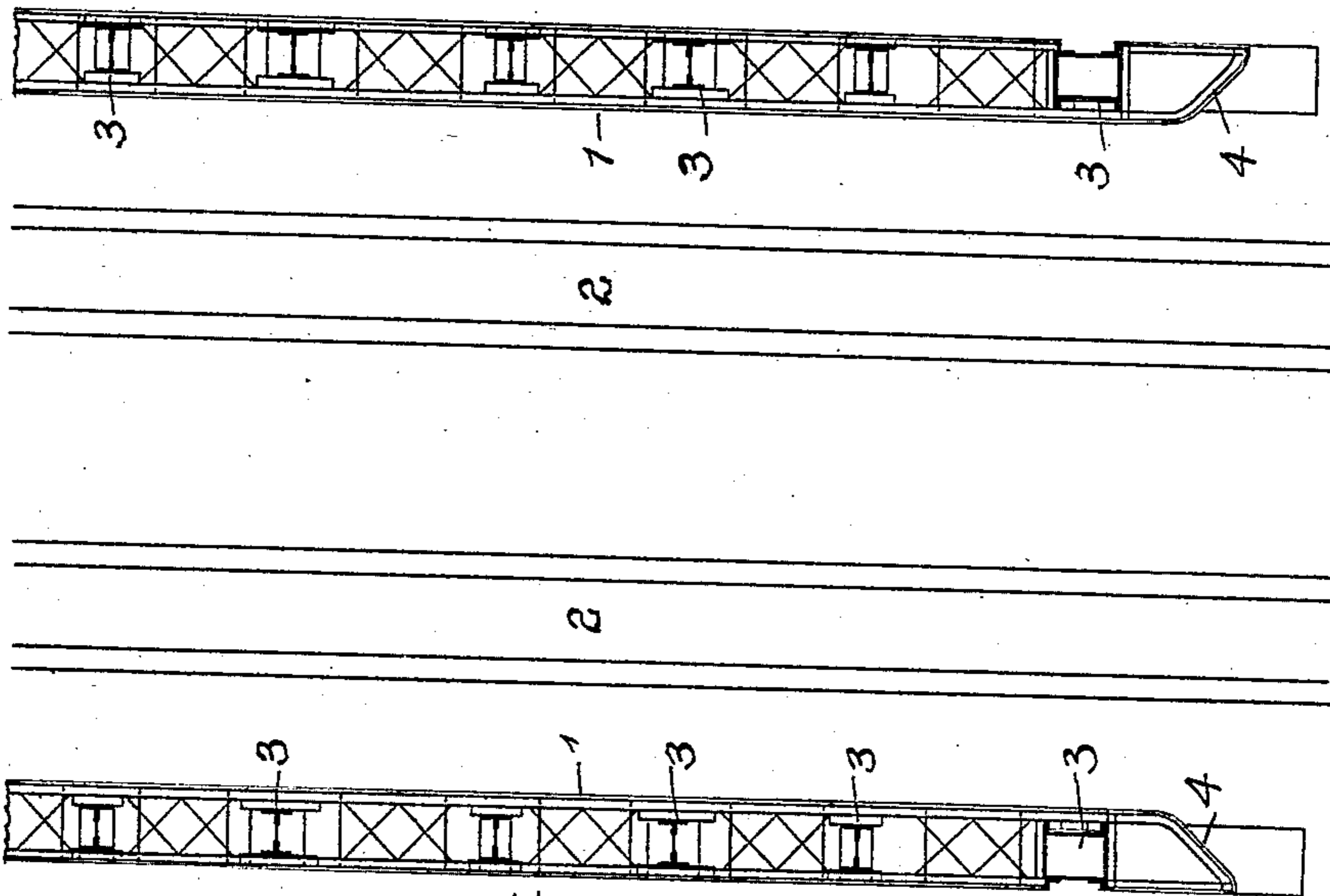


FIG. 3.

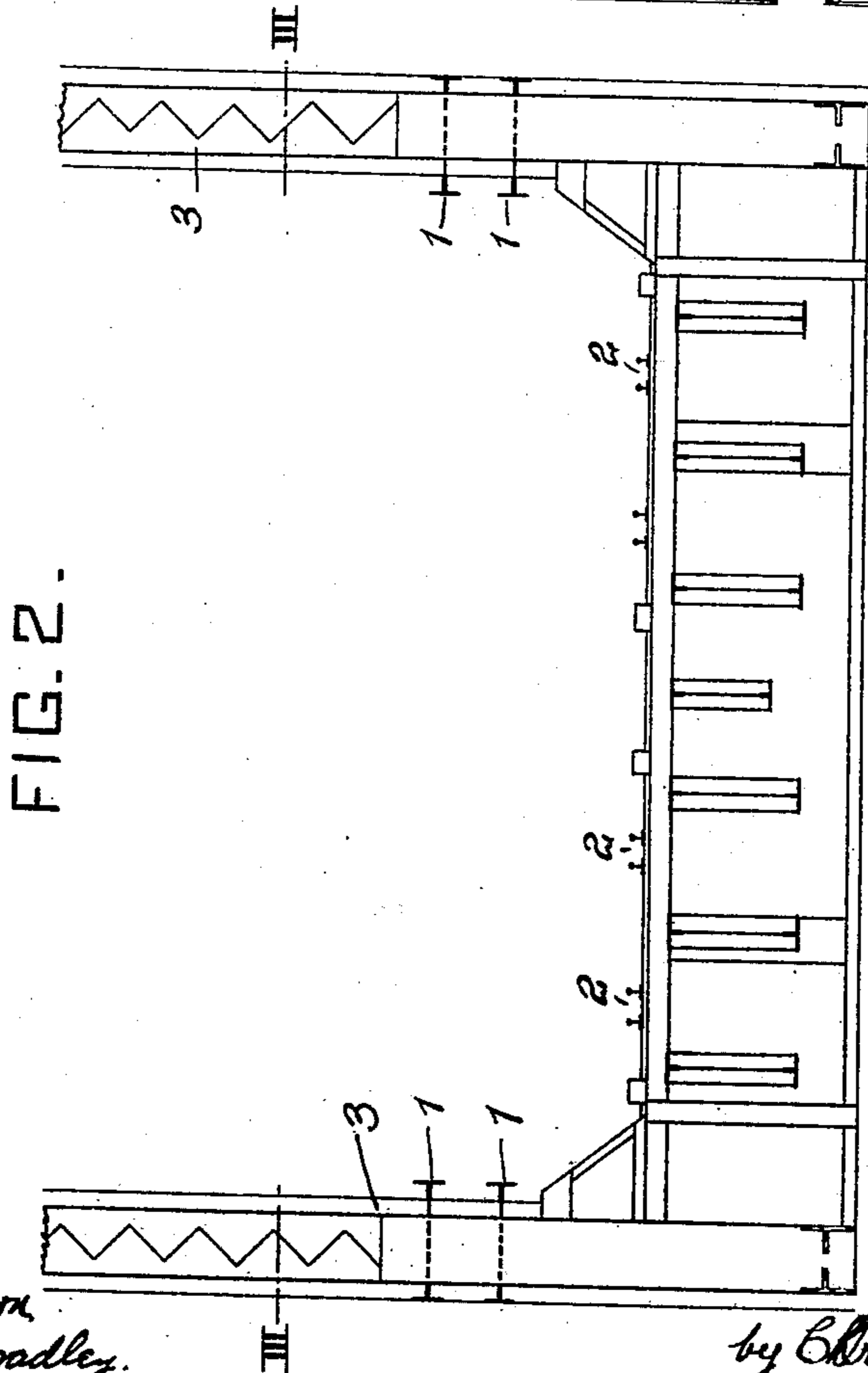


FIG. 2.

WITNESSES:

Francis J. Tomlinson
J. Herbert Bradley

INVENTOR

John A. Atwood
by Christy and Christy
Atty's

UNITED STATES PATENT OFFICE.

JOHN A. ATWOOD, OF BEAVER, PENNSYLVANIA.

BRIDGE.

No. 915,261.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed May 27, 1908. Serial No. 435,226.

To all whom it may concern:

Be it known that I, JOHN A. ATWOOD, residing at Beaver, in the county of Beaver and State of Pennsylvania, a citizen of the United States, have invented or discovered certain new and useful Improvements in Bridges, of which improvement the following is a specification.

The invention described herein relates to an improvement in bridges having for its object the prevention of material injury of the trusses of the bridge by a derailed car.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings forming a part of this specification, Figure 1 is a side elevation of a rail-road bridge having my improvement applied thereto, Fig. 2 is an end elevation of the same, Fig. 3 is a sectional plan view of a portion of the bridge, the plane of section being indicated by the line III—III Fig. 2, and Fig. 4 is a view of a portion of one of the skid girders on an enlarged scale.

In the practice of the invention a longitudinal framed or built up girder 1, which may be constructed in any suitable manner, is secured to the bridge at such a height above the road bed or rails 2 that the body or other portion of a vehicle moving at an angle to its proper direction, will strike and slide along such girder. In the case of rail-road bridges, this girder is preferably made in two horizontal sections, one being arranged in the horizontal plane of the platform or bed of a car when moving along the rails 2, while the other section is arranged a short distance above the first each member of the girder being preferably built up and forming in and of itself a truss member. These girders should be supported a short distance outside of the rails so that in case of derailment the car will strike against the girders, while its angular displacement is quite acute. As will be readily understood the smaller the angle of impact of the car on the girder, the smaller will be any resulting injury and the more easily will the car slide along the girder.

In cases where the trusses are above the deck of the bridge, the skid girders are conveniently built into the trusses as shown in the drawings or secured to all or main parts or members 3 of the trusses or deck-supporting members in any suitable or convenient manner. It is preferred that the "skid" girders should be so secured to the trusses that the faces of the girders designed to receive the impact of the cars will project inwardly a short distance from the trusses so that the members of the latter will not be liable to be hit by a derailed car. It is preferred that the girder should be made rigid transversely and longitudinally so as to distribute the force of a blow among the main or all the members 3 of the truss.

As shown in Figs. 1, 3 and 4 the girder is desirably extended beyond the ends of the trusses, so that in case a car is derailed before entering the bridge the skid girder will receive the blow. The projecting ends 4 of the girder are beveled or inclined so as to direct the car onto the bridge. As will be readily understood the individual members of the trusses are protected from a direct blow from a derailed car. This distribution of the force of a blow among a plurality or all of the truss members greatly minimizes the probability of injury from such blow. In addition to the protection afforded to the bridge, the skid girder facilitates the onward movement of a derailed car and thus reduces the liability of derailment of other cars.

I claim herein as my invention:

1. A bridge having in combination therewith a longitudinal girder above the deck of the bridge inclosing and secured to the deck supporting members, and adapted to protect the deck support members from the blow or impact of a vehicle moving at an angle to the normal direction of travel.

2. A truss bridge having in combination therewith a longitudinal girder inclosing and secured to the truss above the deck of the bridge and adapted to protect the truss members from the blow or impact of a derailed car.

3. A truss bridge having in combination

therewith a longitudinal girder inclosing and
secured to the truss above the deck of the
bridge and projecting inwardly beyond said
truss and adapted to distribute among a
5 plurality of members of the truss the strain
due to the impact of a derailed car.

4. A truss bridge having in combination
therewith a framed or built up skid girder

built into the truss and projecting inwardly
beyond the plane of the truss. 10

In testimony whereof, I have hereunto set
my hand.

JOHN A. ATWOOD.

Witnesses:

CHARLES BARNETT,
J. HERBERT BRADLEY.