

T. W. TRAVIS.
Railway-Track.

No. 202,607.

Patented April 16, 1878.

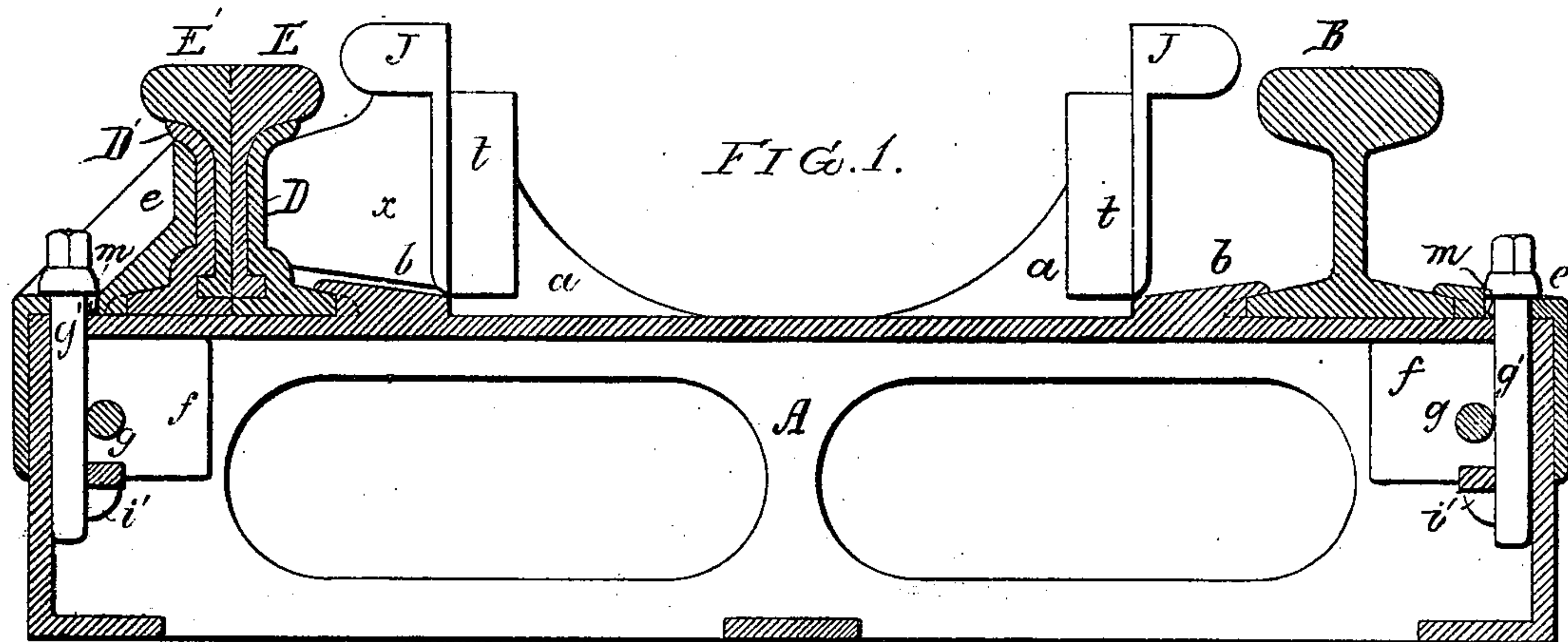
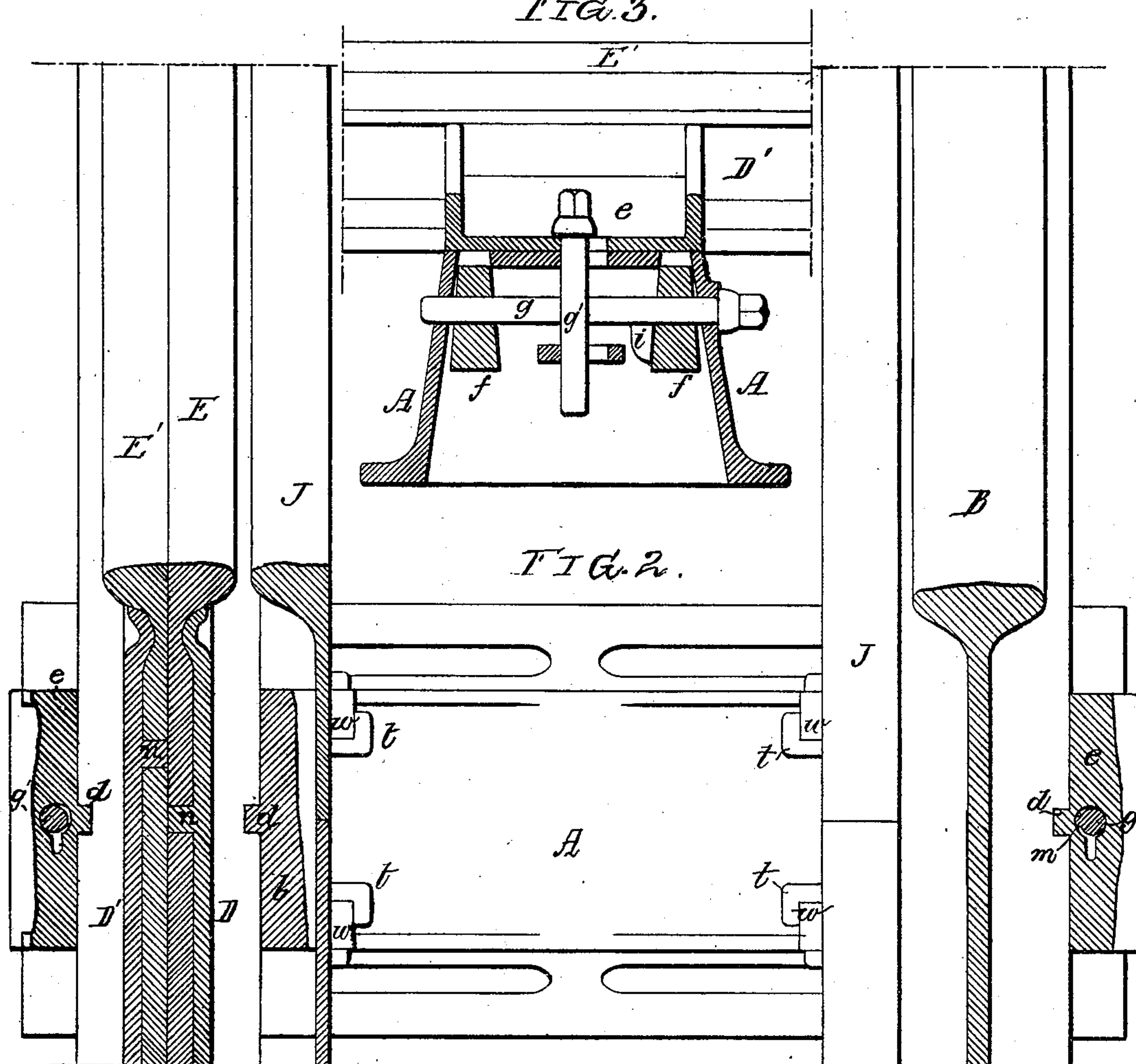


FIG. 3.



Witnesses.
Harry Smith
John H. Sumner

Inventor, Thomas W. Travis
by his Attorneys Howson & Son

UNITED STATES PATENT OFFICE.

THOMAS W. TRAVIS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN A. POLLOCK, OF SAME PLACE.

IMPROVEMENT IN RAILWAY-TRACKS.

Specification forming part of Letters Patent No. **202,607**, dated April 16, 1878; application filed February 15, 1878.

To all whom it may concern:

Be it known that I, THOMAS W. TRAVIS, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in the Permanent Way of Railroads, of which the following is a specification:

The main object of my invention is to so construct the permanent way of a railroad, and to so secure the rails thereto, as to insure strength and safety—an object which I attain in the following manner, reference being had to the accompanying drawing, in which—

Figure 1 is a transverse sectional view of my improved permanent way for railroads. Fig. 2, a sectional plan view of the same, and Fig. 3 a longitudinal section of part of the same.

A is a girder, preferably of cast-iron, and having a flat top, on which rest the rails, which may be of any desired character, that shown on the right of Fig. 1 being an ordinary T-rail, B, and that shown on the left the compound rail for which Letters Patent No. 194,193 were granted to my assignee on the 14th day of August, A. D. 1877. On the top of the girder are formed ribs *a* and blocks *b*, the latter being adapted to the inner edge of the flange of the rail B and the flange of the inside supporting-plate D of the compound rail, and each block having a lug, *d*, adapted to a recess in the flange, so as to prevent longitudinal movement of the rail or side plate.

The outer flange of the rail B and the outer supporting-plate D' of the compound rail are clamped by blocks *e*, which have flanges overlapping the edge of the girder A, and are provided with downwardly-projecting tongues *f*, adapted to recesses in the girder, the blocks being held firmly in position against the rail or side plate by means of a longitudinal pin, *g*, passing through openings in the girder and tongue, and held in position by means of a lug, *i*.

A vertical pin, *g'*, passes through each block *e*, and through bearings in the girder, being retained therein by a lug, *i'*, and this pin *g'* has, near the upper end, a cam, *m*, which bears against the inside of the opening in the block *e*, and may be caused to force the said block inward against the rail or side plate if it becomes loose.

The block *e* has a lug, *d*, adapted to a recess

in the flange of the rail or side plate, in the same manner and for the same object as the lug of the block *b*. In practice it is intended that those blocks, *b* and *e*, which are applied to the center of the rail or side plate only shall be provided with lugs *d*, the clamping-blocks between the center and ends of said rail or side plate being plain, so as to permit expansion from the center toward each end and contraction from each end toward the center.

In order to insure like expansion and contraction of the angle-iron bars E E', which constitute the compound rail, the ribs at the bottom of said angle-iron bars have recesses, to which are adapted lugs *n* on the side plates D D', these lugs being in about the same longitudinal position on the inside of the said plates as the notches for the lugs *d* are on the outside, the bars E E' being thereby held at or about the same points as the plates D D'.

The tongues *f* of the blocks *e* are made wedge-shaped, being wider at the bottom than at the top, so that their vertical displacement is impossible, and the girders A are made flaring outwardly from top to bottom, so that as the girder is forced downward the ballast will become wedged firmly within and around the same, and thus afford a secure foundation and prevent the rising of the girder.

Openings are made in the sides of the girder A to lighten the same, and also to aid in retaining it in position, owing to the wedging of the ballast in the openings.

Adjacent to the inside of each rail is a longitudinal bar, J, which has on the inside bent ribs *t*, adapted to projections *w* on the ribs *a* of the girder, the bars J being thereby held in place close to the rails, so as to act as guards to prevent the wheel from leaving the said rails. The bars J have projecting plates *x*, which abut against the inner plate of the compound rail, or may abut against the inside of the T-rail, so as to stiffen and strengthen the rails transversely.

The above-described method of constructing the permanent way and applying the rails thereto is strong and durable, while the rails are firmly held without the use of the usual spikes, bolts, nuts, and fish-plates.

I claim as my invention—

1. The combination of recessed rails with

the girder A and its blocks *b* and *c*, having lugs *d*, as specified.

2. The combination of the girder A, the rails, the adjustable clamping-blocks *e*, having tongues *f*, and the retaining-pin *g*, as set forth.

3. The combination of the rails, the girder A, the adjustable clamping-blocks *e*, and the pin *g'*, having a cam, *m*, as specified.

4. The combination of the recessed girder A with the clamping-block *e*, having a wedge-shaped tongue, *f*, adapted to a recess in the girders, as described.

5. The combination of the rails, the girders A, and the guard-bars J, having bent ribs *t*

adapted to projections on the girders, substantially as specified.

6. The combination of the rails with the bars J, from which project plates *x*, adapted to bear against the insides of the rails, but not secured thereto, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS W. TRAVIS.

Witnesses:

HARRY A. CRAWFORD,
HARRY SMITH.