

No. 749,609.

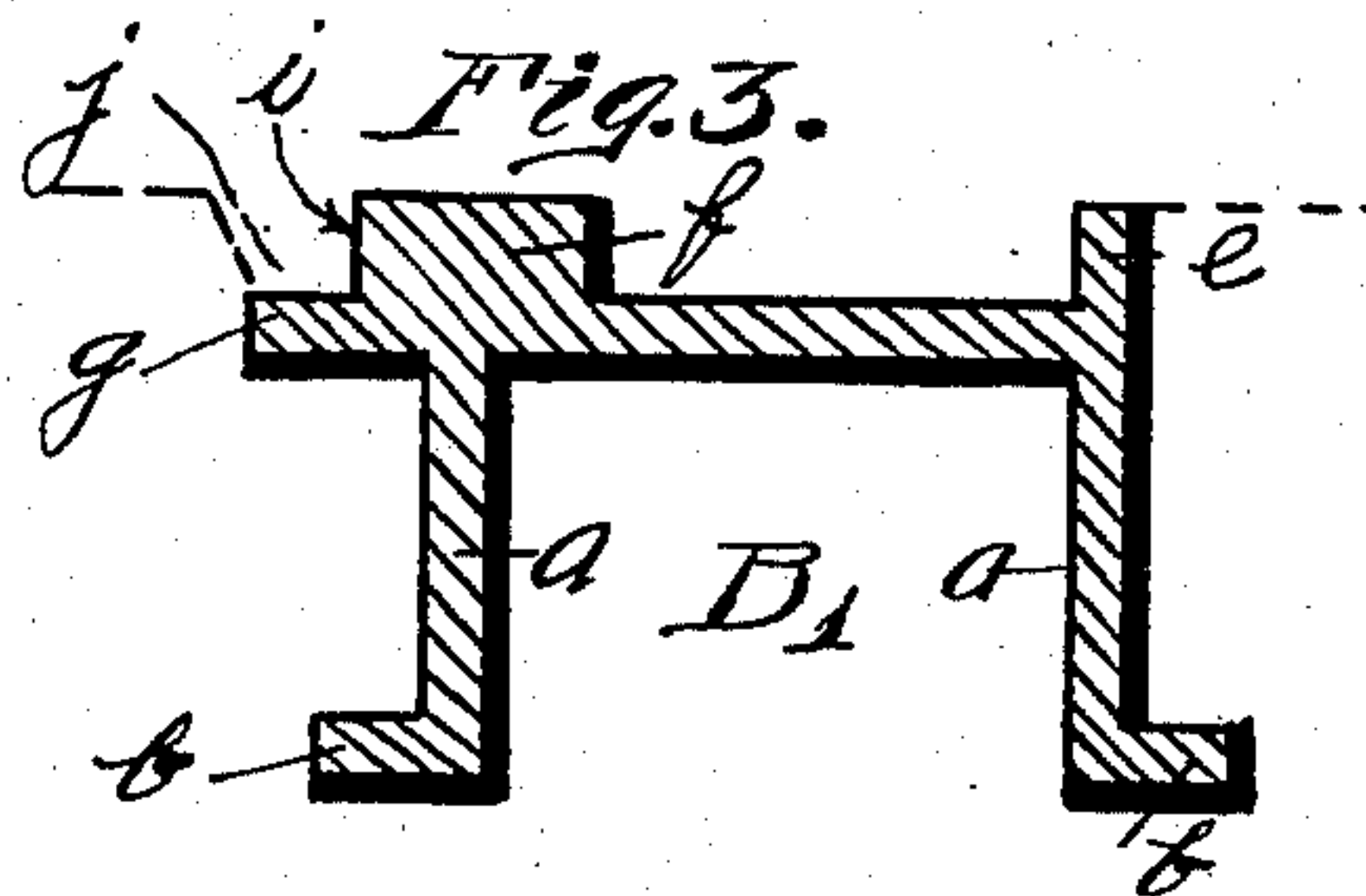
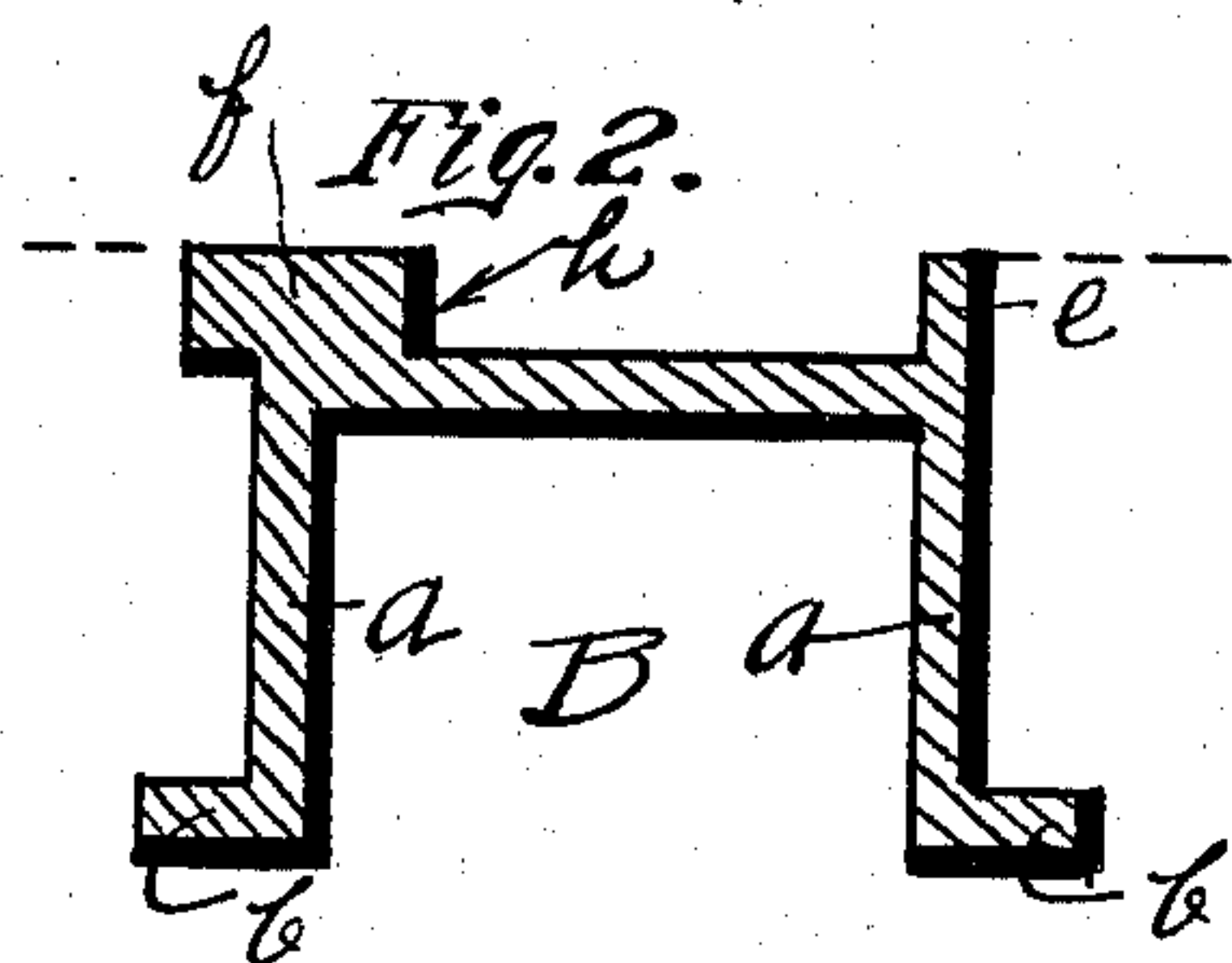
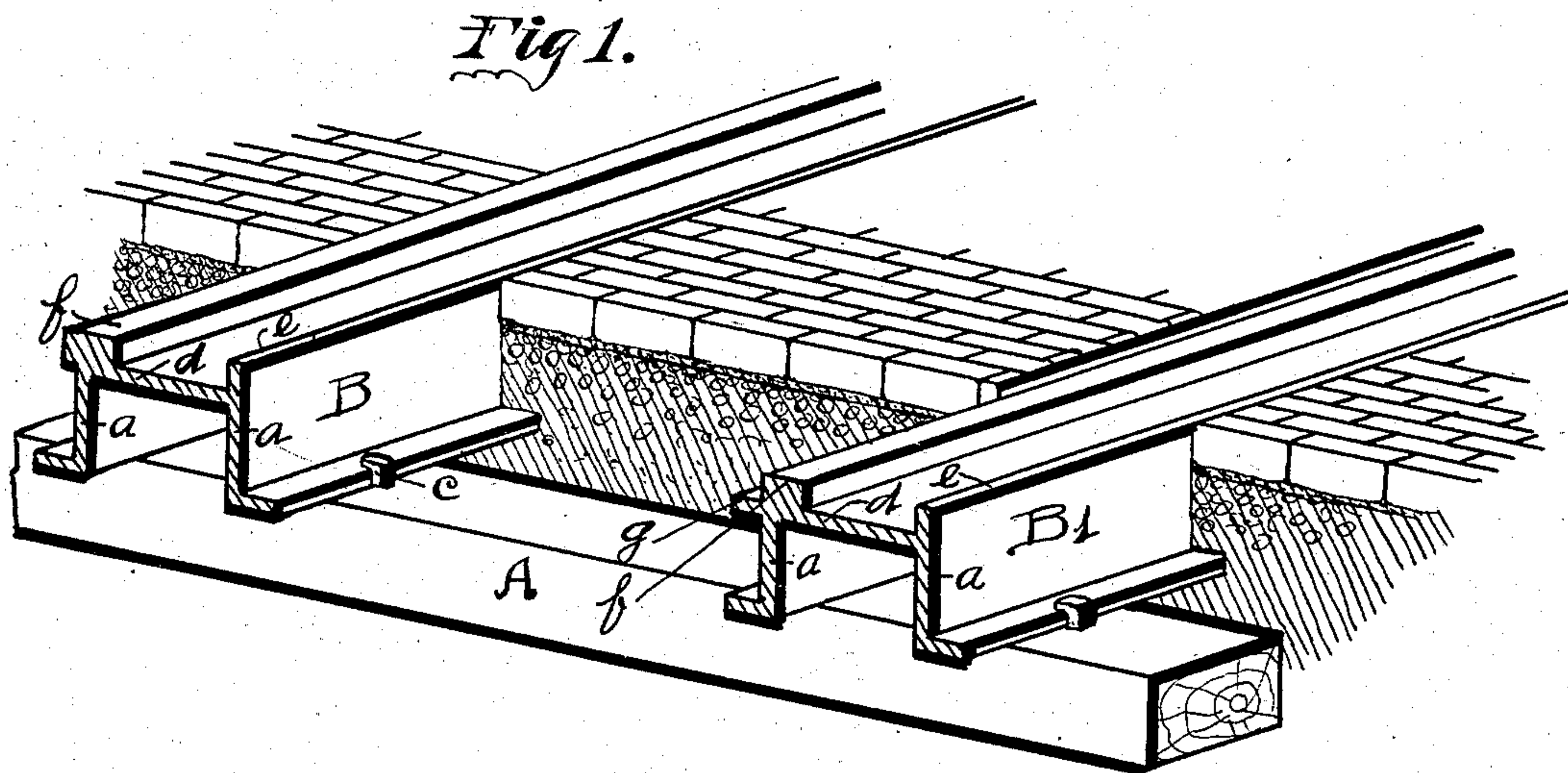
PATENTED JAN. 12, 1904.

T. M. GALBREATH.
RAILROAD.

APPLICATION FILED SEPT. 29, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

F. J. Rogers
J. K. Smith

Inventor.

Thomas Maury Galbreath
by *J. A. Wakeford*
his atty.

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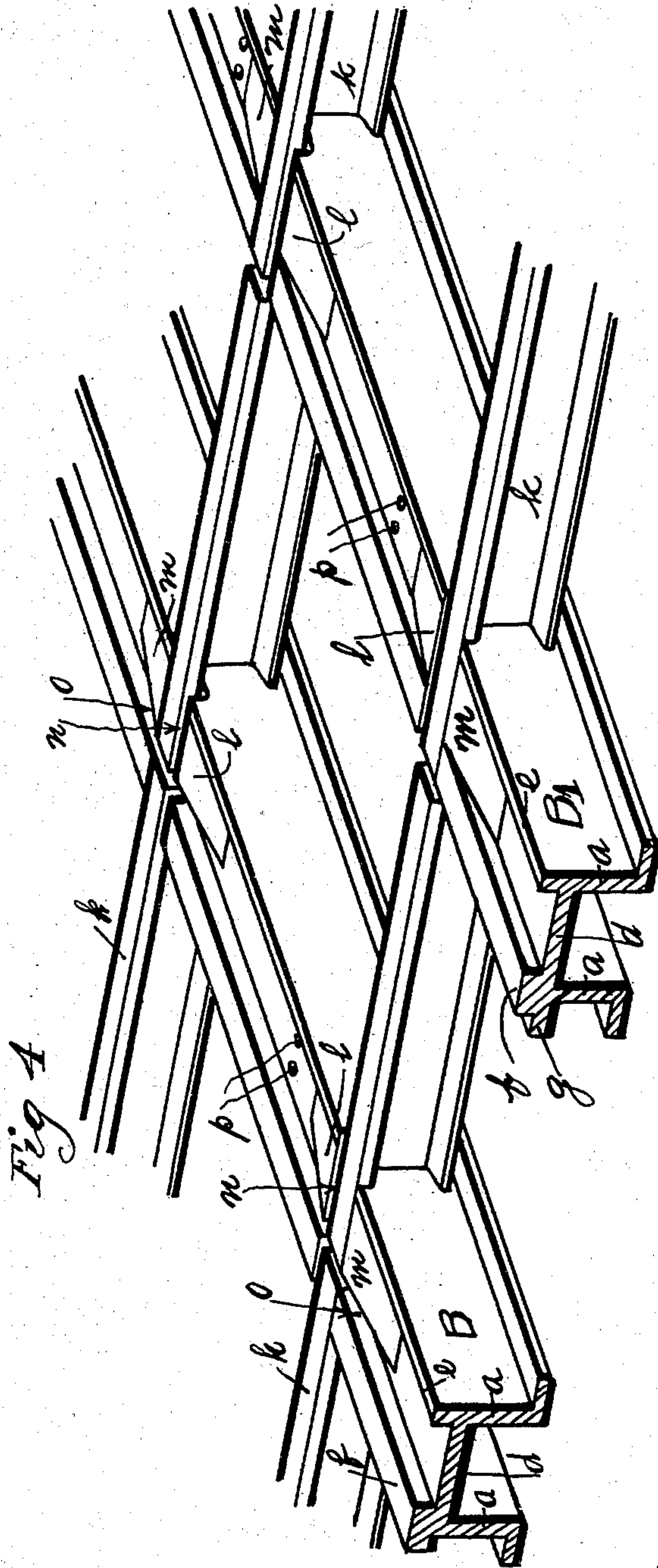
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UNITED STATES PATENT OFFICE.

THOMAS MAURY GALBREATH, OF MEMPHIS, TENNESSEE.

RAILROAD.

SPECIFICATION forming part of Letters Patent No. 749,609, dated January 12, 1904.

Application filed September 29, 1903. Serial No. 175,078. (No model.)

To all whom it may concern:

Be it known that I, THOMAS MAURY GALBREATH, a citizen of the United States, residing at Memphis, Shelby county, State of Tennessee, have invented certain new and useful Improvements in Railroads, of which the following is a specification.

My invention relates to certain new and useful improvements in railroads, and more especially to improvements in that class of railroads which are designed to be laid in the streets of cities or in roadways to form a tramway for wagons and similar vehicles, as well as street-cars, and it is designed more particularly as an improvement on my Letters Patent No. 516,327, dated March 13, 1894, and No. 591,597, dated October 13, 1897.

The general object of my present invention is to provide for use in railroads of the class mentioned rails each made in a single piece and adapted to afford a smooth bearing-surface and guide for wagon and carriage wheels, as well as car-wheels, and rails which are so formed or shaped that when laid in concrete or other pavement or in a roadway they will be held by the material composing the pavement or roadway against lateral and upward movement, and which when laid to proper gage for cars will form a track of proper gage for vehicles as now in use.

With the foregoing ends in view my invention will be fully understood from the drawings, specification, and claims.

In the drawings, Figure 1 is a mechanical perspective of a portion of a street, showing my improved rails in use. Fig. 2 is an enlarged section of one of the rails, and Fig. 3 is a similar section of the opposite rails. In these two views the level of the street-surface is indicated by dotted lines. Fig. 4 is a mechanical perspective showing arrangement of my rails in a crossing with a steam or other railroad using T-rails.

Referring to the drawings, in which like parts are indicated by the same or like letters, A is an ordinary cross-tie, of wood or other suitable material, which is preferably laid in a bed of concrete, which also supports the desired paving-surface, brick being indicated.

The rails B B' are fastened to the ties A by spikes or other suitable means, the spikes being preferred, and are held together in the usual manner by angle-bars or other suitable means. These rails B B' are respectively formed of one piece of substantially the same cross-section—that is to say, they comprise parallel webs or upright portions having outwardly-directed base-flanges *b* for the engagement of the spikes *c*, a flat head *d*, which connects the upper portion of the webs *a* and is designed to form a tread for the wheels of wagons and similar vehicles, guard-flanges *e*, being a continuation of the webs *a*, extending above the head *d* and forming guides for the wagon or vehicle wheels. At the opposite edge is a wheel-tread *f*, designed as the tread for the car-wheels and serving as additional guides for the wagon-wheels. In addition to these parts the rail B' is provided with a flange *g*, extending out laterally from beneath the tread *f* to serve as a protection to the street-surface. It will be especially noted that the car-wheel treads *f* come on the corresponding sides of the rails—*i. e.*, the left-hand side of each in the drawings—and that the guide-flanges *e* are therefore on corresponding sides, (the right hand in the drawings.)

In building a railroad embodying my improved rails the ties or sleepers are arranged at suitable intervals apart and are laid at such a distance below the surface of the street-pavement or roadway that when the rails are placed upon and connected to the sleepers the upper sides of the guard-flanges *e* and the wheel-treads *f* of the rails will rest flush with the surface of the pavement or roadway. In consequence of this it will be seen that the material forming the roadway or pavement may rest between the guard-flanges *e* and base-flanges *b* and may also rest in the space formed by the webs *a* and head *d*, and thereby serve to prevent either lateral or upward movement of the rails, and consequently materially strengthen the railroad.

It will be appreciated from the foregoing that the smooth surface afforded by the rails of my improved railroad enables draft-animals to draw heavy loads with comparative

ease, and it will also be observed that when the railroad is laid in a cobblestone or other rough pavement or roadway a good foothold will be afforded the draft-animals and a smooth surface for the travel of the vehicle, and consequently the draft will be rendered very light. It will also be seen that by using the side *h* of one car-wheel tread *f* and the opposite side *i* of the opposite tread to guide the flange of the car-wheel the tread for vehicle-wheels is necessarily gaged the same as the rails, and since the ordinary vehicle is of the same wheel gage as the car this path can be used without any change in vehicle. In this case a groove *j* must be left between the pavement and the rail to accommodate the wheel-flange, and the pavement at the bottom of this groove is protected by the flange *g*.

Referring now more especially to Fig. 4 of the drawings, where it becomes necessary to cross another track (shown for illustration with T-rails *k*) I provide wedge-shaped blocks *l m*, which are preferably exactly the same shape, except that the blocks *l* on the flange side of the rail must be spaced away from the rails *k* to leave a groove *n* for the wheel-flange. On the rail B both blocks *l* and *m* are left clear of the tread to provide the necessary flange-groove *o*, which is not necessary on the rail B'. Holes *p p* are provided at low points in the street-grades to allow water caught in the rail-trough to drain out and through the foundation or suitable drains which may be put in, and thereby prevent the rail being a water-trough at such places.

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

1. In a railroad, the combination of ties laid below the surface of the street-pavement or roadway and the track arranged upon and connected to the ties, said track being formed by rails each of which is in one piece and comprises parallel webs or uprights having outwardly-directed base-flanges, a flat head connecting these webs, guard-flanges on the same edge of each of these rails, wheel-treads on the opposite edges of the rails and a lateral flange extending from beneath the wheel-

tread of one of the rails, substantially as described.

2. A railroad-rail formed in one piece, comprising upright webs, outwardly-directed base-flanges, a head connecting said upright webs, a guard-flange above said head and flush with one of said webs, a wheel-tread at the opposite edge of said rail and a lateral flange extending from beneath the wheel-tread, substantially as described.

3. A railroad comprising two rails having car-wheel treads spaced to standard gage, flat wagon-wheel treads below said car-wheel treads and integral therewith spaced to the same gage, and additional guide-flanges on the sides of said rails opposite said car-wheel treads and projecting above said wagon-wheel treads substantially as described.

4. In a crossing for the herein-described railroad, the combination with the rails to be crossed, two rails each having car-wheel treads spaced to gage, flat wagon-treads below said car-wheel treads and spaced to the same gage, and guide-flanges on the sides of said rails opposite said car-wheel treads and projecting above said wagon-wheel treads, of wedge-shaped blocks forming approaches to the rails to be crossed, substantially as described.

5. In a railroad, the combination of ties laid below the surface of the street-pavement or roadway and the track arranged upon and connected to the ties, said track being formed by rails each of which is in one piece and comprises parallel webs or uprights having outwardly-directed base-flanges, a flat head connecting these webs, guard-flanges on the same edge of each of these rails, wheel-treads on the opposite edges of the rails, a lateral flange extending from beneath the wheel-tread of one of the rails, and holes through said wheel-treads at low points, substantially as described.

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

THOMAS MAURY GALBREATH.

Witnesses:

G. T. KRAFT,
L. REID.