

(No Model.)

2 Sheets—Sheet 1.

T. H. GIBBON.
CONSTRUCTION OF RAILWAY TRACKS.

No. 458,657.

Patented Sept. 1, 1891.

Fig. 1.

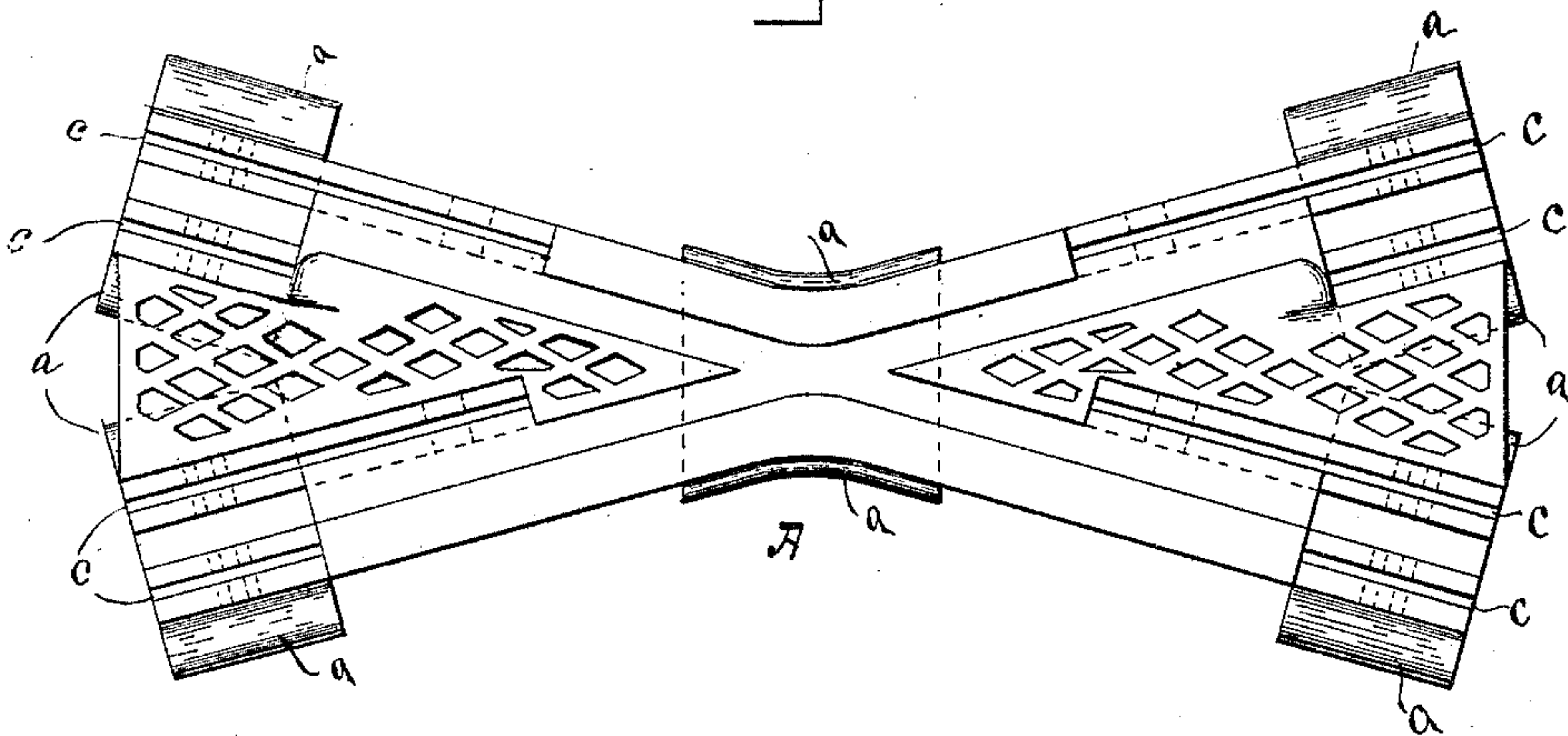


Fig. 2.

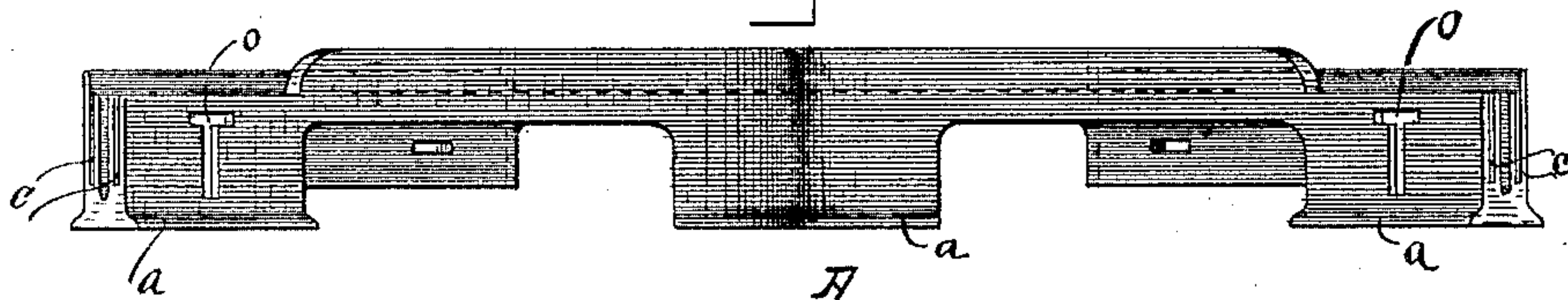


Fig. 5.

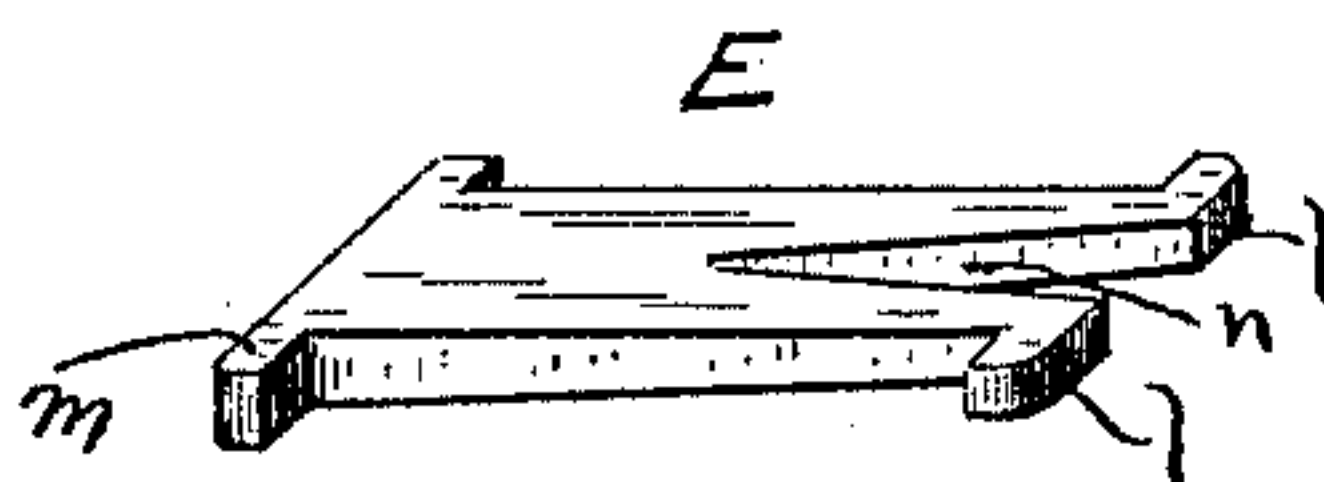
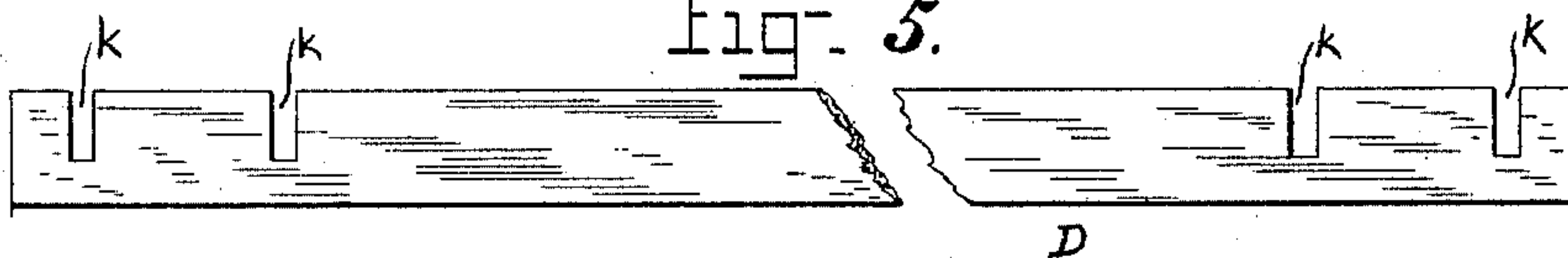


Fig. 4.

Witnesses
Chas. W. Thomas
Geo D. Ewell

Inventor
T. H. Gibbon

(No Model.)

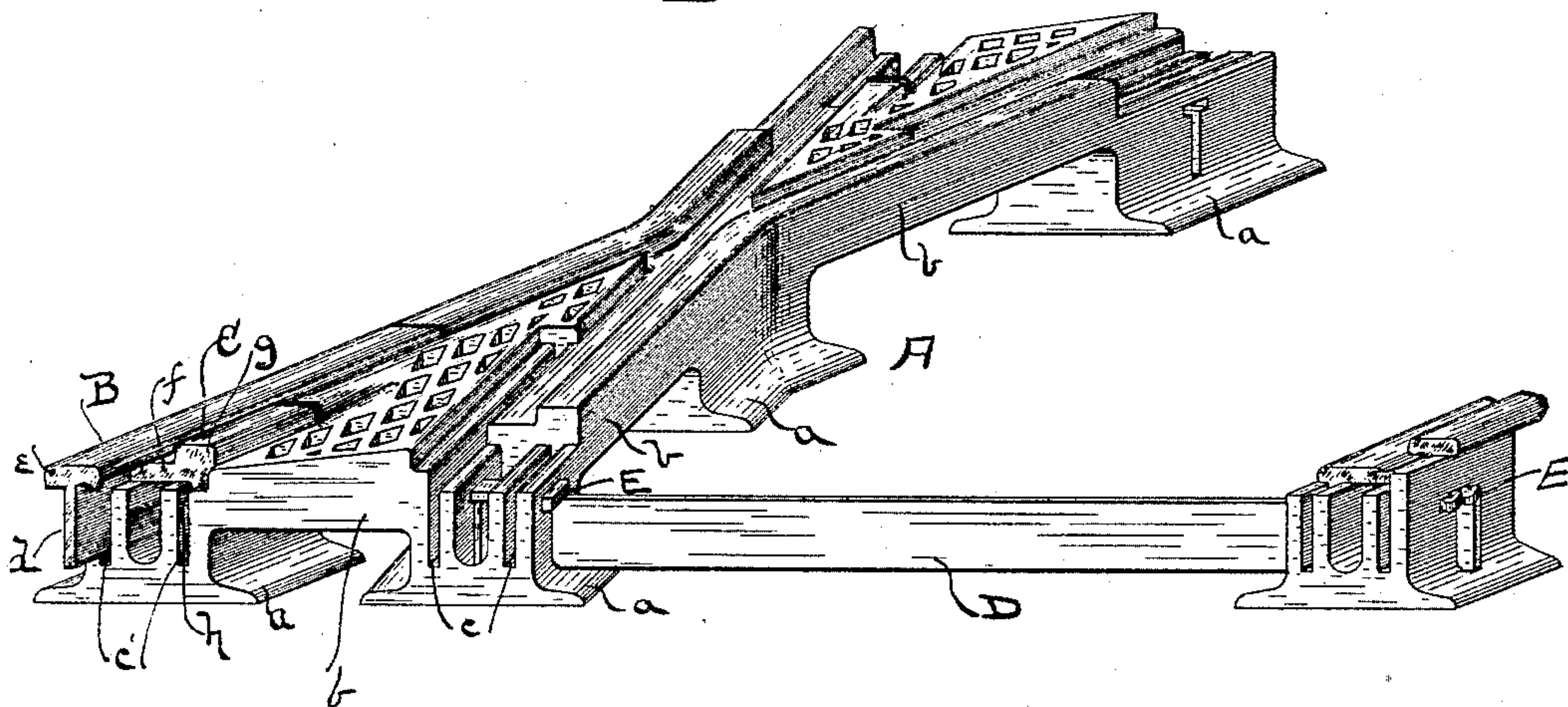
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Fig. 3.



Witnesses
Chas. W. Thomas
Geo. D. Awell

Inventor
T. H. Gibbon

UNITED STATES PATENT OFFICE.

THOMAS H. GIBBON, OF NEW YORK, N. Y., ASSIGNOR TO THE DUPLEX STREET RAILWAY TRACK COMPANY, OF WEST VIRGINIA.

CONSTRUCTION OF RAILWAY-TRACKS.

SPECIFICATION forming part of Letters Patent No. 458,657, dated September 1, 1891.

Application filed November 28, 1890. Serial No. 372,949. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. GIBBON, of the city and county of New York, in the State of New York, have invented new and useful
5 Improvements in the Construction of Railway-Tracks, of which the following is a specification.

This invention relates to improvements in railway-tracks which are constructed principally or entirely of metal; and the objects of my invention are to provide a simple and enduring track, to remove the jolting and jarring when passing over the frogs and crossings, to dispense with bolts and nuts, and to make
15 a continuous contact of metal at the joints without wiring, as is the usual method for contact for electrical propulsion, to give freedom for expansion and contraction of the rails, and to prevent spreading and creeping
20 of track. I attain these objects by the construction illustrated in the accompanying drawings, which are herein referred to and form part of this specification, in which—

Figure 1 is a plan view of frog or crossing.
25 Fig. 2 is a side elevation of same. Fig. 3 is an isometrical view of same, showing bifurcations to receive the girders of the track-rails. Fig. 4 is an isometrical view of automatic lock-wedge which locks the rails in position; Fig. 5, a side elevation of transverse
30 tie-bars, which connect the frog or crossing and track-rails together.

As represented in the drawings, A indicates my frog or crossing as constructed in accordance with this improvement. Said frog or crossing is preferably made of cast metal, having at the center and at each end large base-plates *a*, which rest upon stone or cement foundations prepared for that purpose. It is
40 also provided with an apron *b* at the ends and sides, designed as a wall to support paving in position, and with deep parallel grooves *c* at each end to receive the pendent flange or flanges of railway-rails, which, when seated in
45 the grooves of the frog or crossing, form a channel or grooved rail for the passage of the flange of the wheels of the cars. It will be observed that when the track-rail C is connected with the frog or switch-piece the solid
50 head of rail B covers the connection, and by this mode of lap-jointing the track becomes

continuous and the great jarring now experienced on passing over frogs and switches is absolutely obviated.

I have shown a track-rail in duplex having 55 two pendent flanges; but other types may be used. The primary section B of said duplex rail has a vertical web *d* and a head *e*, whose under face seats upon the face of the bifurcation of the frog or switch-piece. The secondary section C is made with a horizontal
60 flange *f*, having on one edge of its upper face a longitudinal head *g*, and on the under side directly under the head there is a pendent longitudinal flange *h*. The pendent flanges of 65 rails B C are slotted at stated intervals to receive the automatic wedge. The tie-rod D is a metal bar of sufficient length to extend transversely from the frog or switch-piece to the chair of the opposite located track. Said 70 tie-bars are notched, as at *k*, to the gage required near each end to receive the girder of the track-rail B and C, and thereby the tracks are securely held from spreading apart to destroy established gage, and from rocking either 75 toward or from each other to disturb the proper level of the track. The automatic key E is wedge-shaped, and preferably made of malleable metal. At one end it is bifurcated, as at *l*, and has harpoon-shaped points. The 80 other end is provided with a shoulder-head *m*. The length between the harpoon-points and the shoulders is governed by the width of metal it has to lock together. The bifurcation
85 *n* in the wedge-key, when being driven through the mortises of the frogs, the rails, and chairs, becomes closed; but when passed through, the prongs spring open, the face of the harpoon fitting close to the inner wall of casting, the inside face of shoulder fitting closely to the 90 other face of casting, thus automatically locking the rails and frogs and crossings firmly together. The mortises *o* in the frogs and rails are longer than the wedge-key. This is to provide for longitudinal expansion and 95 contraction of track-rails.

The mode of laying this track is as follows: The frog or crossing A is first located on the foundation prepared for that purpose. Then the tie-bars D are passed through the mor- 100 tises *o* in the frog and oppositely-located chair, the notches in the tie-bar being in line with

the grooves *c* in the castings. Then the girder of rail C is dropped into the grooves *c* of the frogs and notch of tie-bar. Then girder of rail B is dropped into the other groove *c'* of frog and notch of tie-bar, but in such manner that the solid head of rail B covers the connection of rail C with frog A, thus making a continuous track. Then the wedge-key E is driven through the slots in the casting and mortises in the rail, covering the tie-bar and absolutely locking all the parts together and gaging the track.

I claim as my invention—

1. The combination of the rails, a grooved and mortised switch-piece, the tie-rods, and automatic wedge-keys so arranged as to form a lap-joint or continuous rail, as and for the purpose specified.

2. A frog or switch-piece having enlarged base-plates, also provided with deep grooves for the reception of web of rail, and mortises

for the reception of tie-bars and wedge-keys, the rails when in position in the frog or switch-piece forming a continuous bearing-surface for tread and a groove for flange of the car-wheel, as and for the purpose specified.

3. The combination of a frog or metal switch-piece fitted with grooves and mortises and so arranged as to form with rails a lap-joint or continuous track, the rails being secured in the frog and the latter held in position by the notched metal tie-rod.

4. The combination of a frog or metal switch-piece, rails, tie-bars for holding the same in position, and an automatic wedge-key for securely locking all parts together, as and for the purpose specified.

THOMAS H. GIBBON.

Witnesses:

F. E. KEELY,
JOHN D. ELWELL.