

(No Model.)

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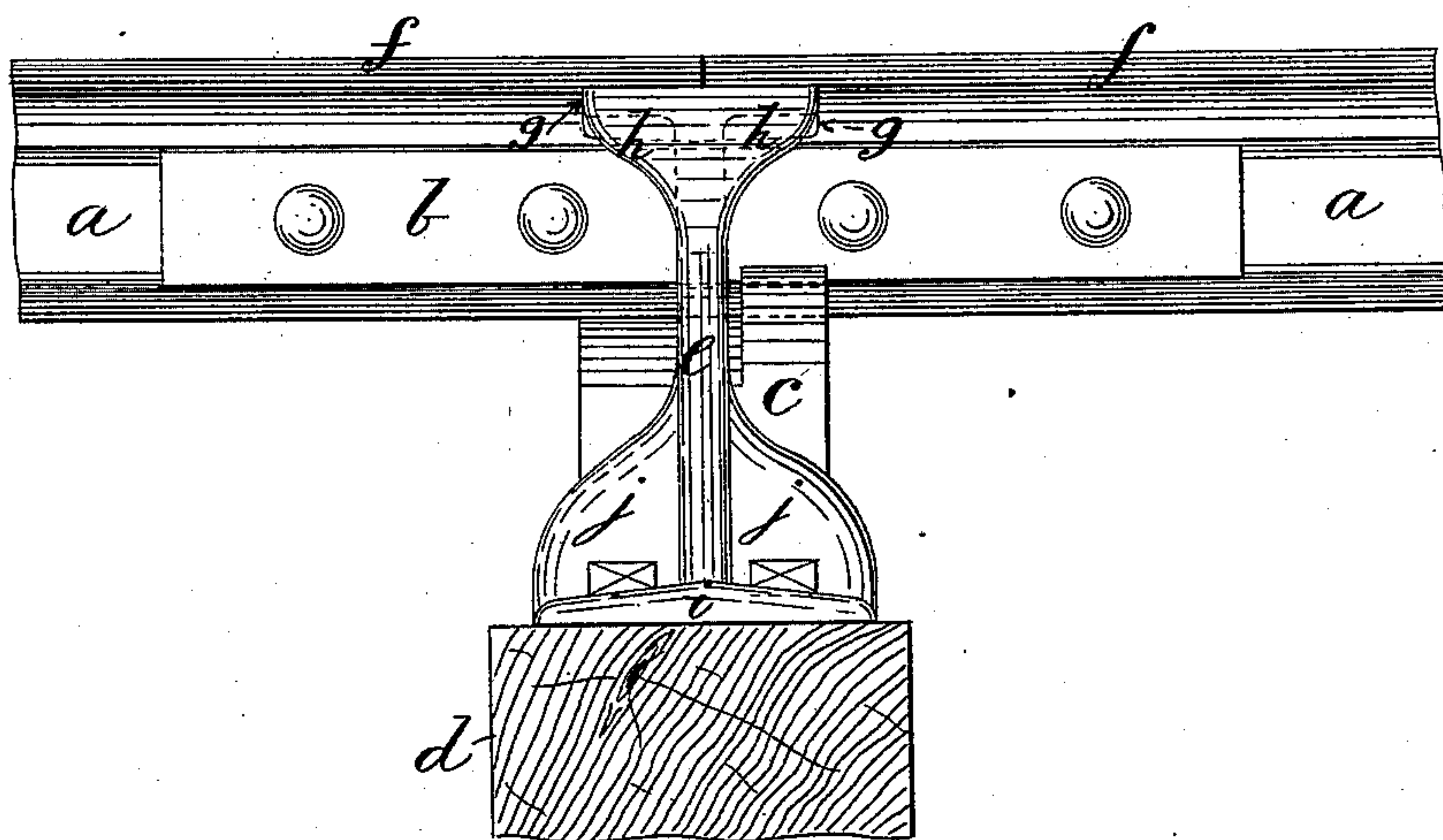
C. K. DICKSON.

STREET RAILWAY.

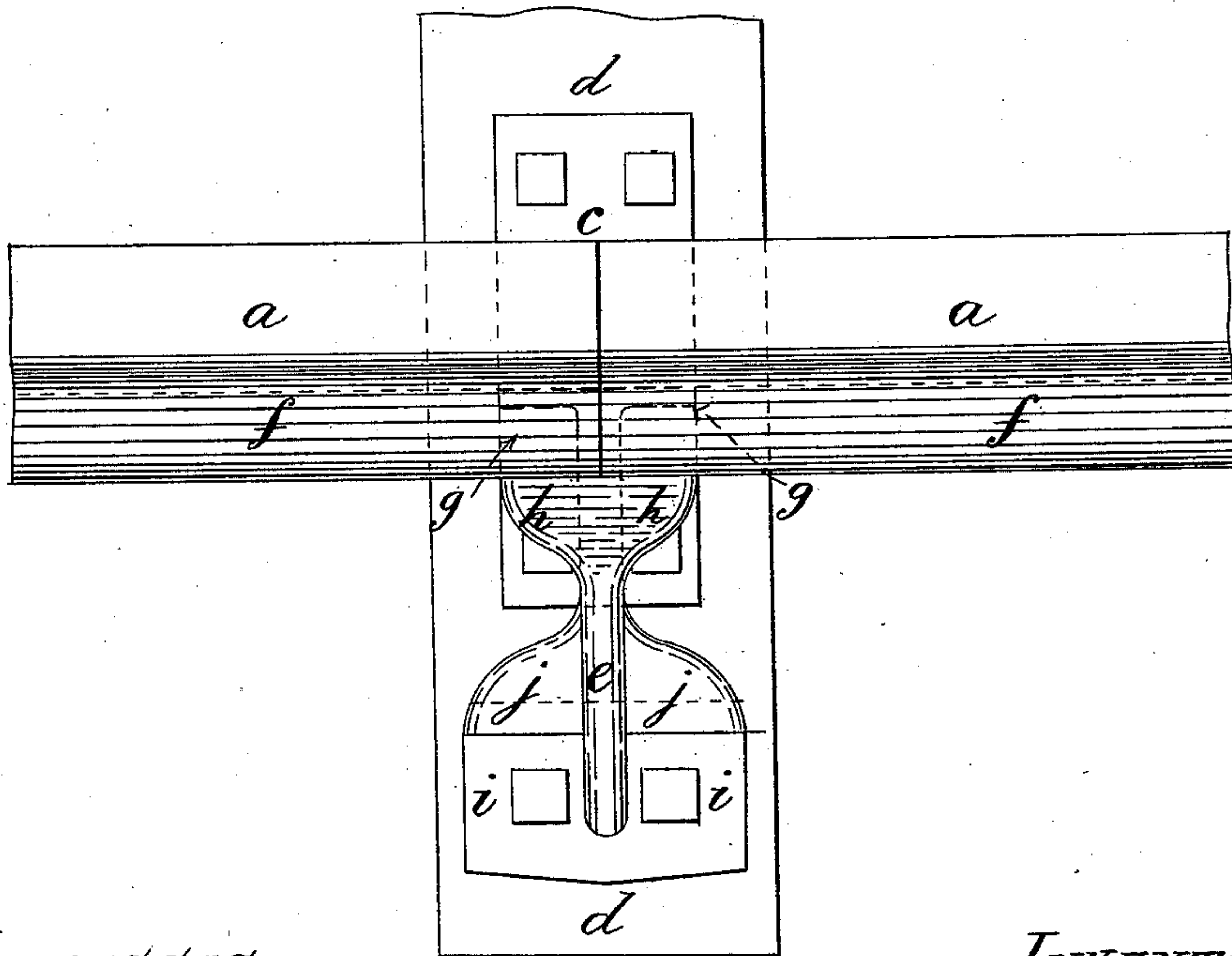
No. 361,211.

Patented Apr. 12, 1887.

*Fig. 1.*



*Fig. 2.*



*WITNESSES*

*S. L. Schrader.*

*Edwin Sauter*

*INVENTOR*

*Charles K. Dickson*

*Paul Bakerell,*  
*his attorney*

(No Model.)

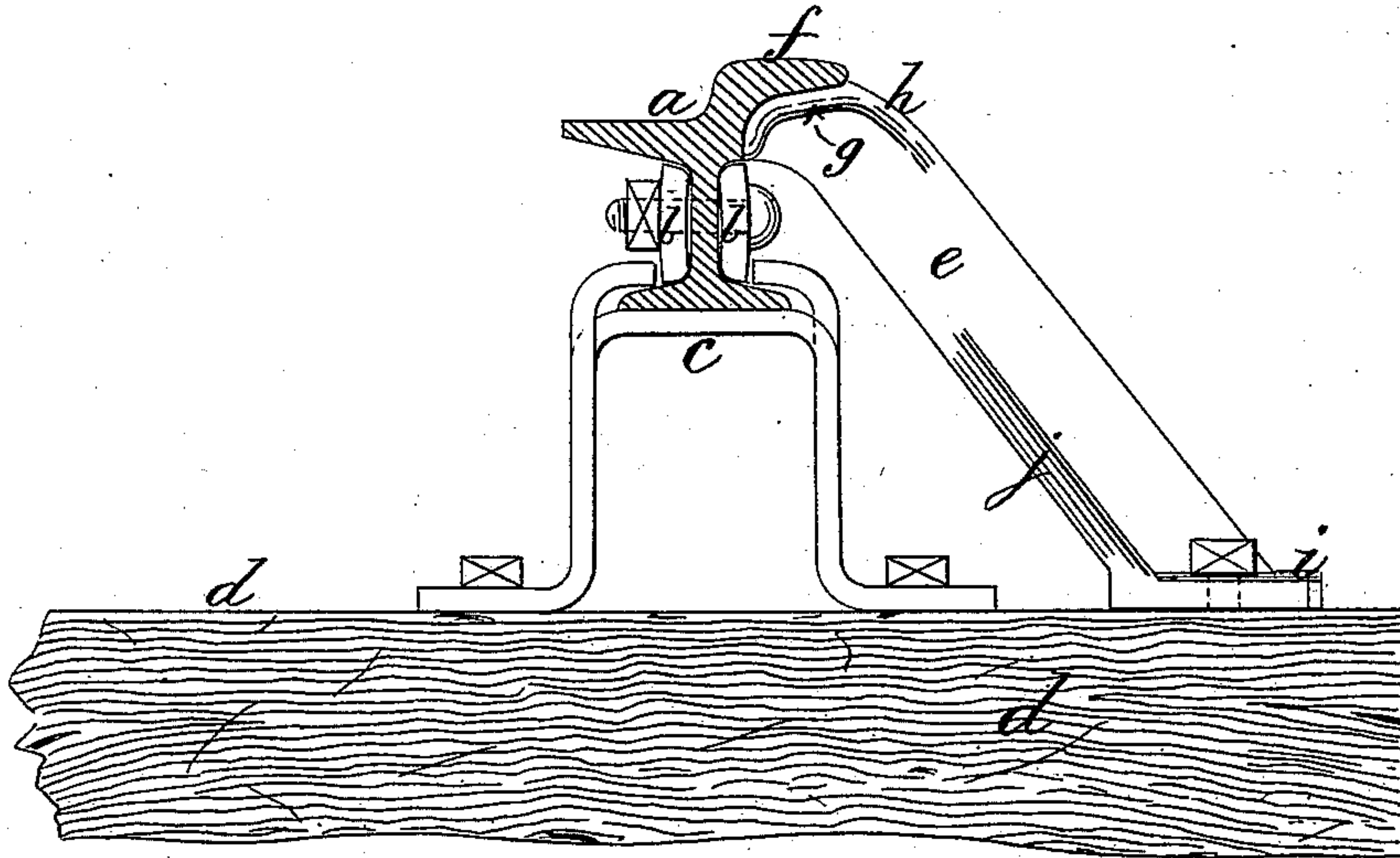
2 Sheets—Sheet 2.

C. K. DICKSON.  
STREET RAILWAY.

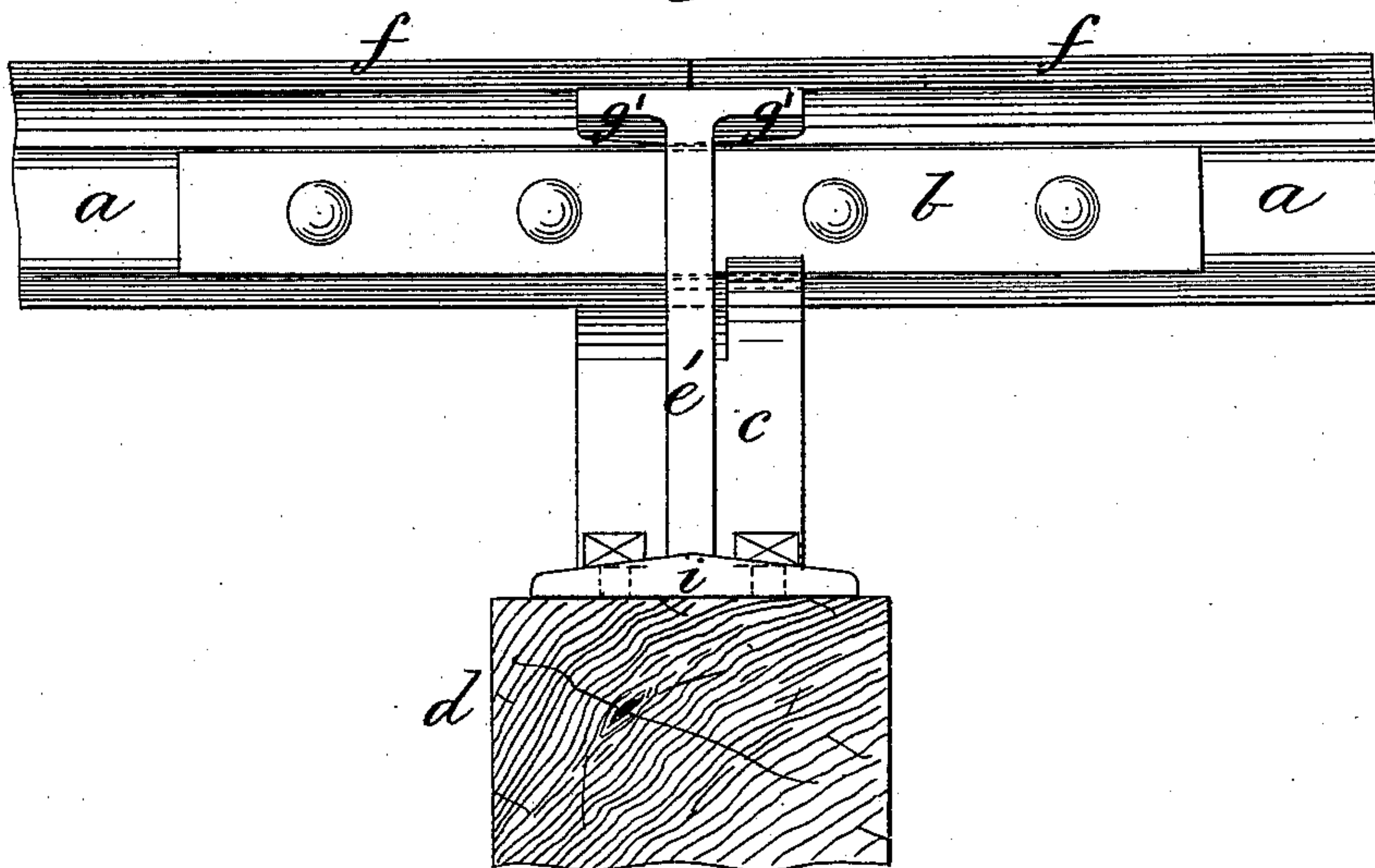
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*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

CHARLES K. DICKSON, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF  
TO ROBERT H. FLOYD-JONES, OF SAME PLACE.

## STREET-RAILWAY.

SPECIFICATION forming part of Letters Patent No. 361,211, dated April 12, 1887.

Application filed September 30, 1886. Serial No. 214,907. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES K. DICKSON, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Street-Railways, of which the following is a full, clear, and exact description.

My invention relates to improvements in street-railways, and has for its object to obviate the tendency of the rails to spread at their heads and to preserve the road-bed immediately along the outside of the rails from the injury and wear arising from the passage of heavy wagons and other vehicles.

My invention, which is particularly applicable to the well-known Johnson form of rails, where the opposite rails are connected together transversely through their webs by stay-bolts, consists in the application to the outsides of the rails of raking or inclined stays extending from the under sides of the rail-heads to some distance back along the transverse sleepers, to which they are secured.

On the accompanying drawings, Figure 1 is a side elevation representing the end portions and fish-joint of two consecutive rails of a street-railway fitted with my invention; Fig. 2, a plan, and Fig. 3 an end view of the same, and Fig. 4 a side elevation of a modification thereof.

Like letters of reference denote like parts in the respective figures.

*a a* represent the end portions of two consecutive rails of the above-named Johnson section jointed together by the fish-plates *b* and laid on the upright block or chair, *c*, which is secured to the cross-sleeper *d*.

On the outside of the rails *a a* is a specially-shaped raking or inclined stay, *e*, made of iron or other suitable material and extending from the under side of the rail-heads *f* to the cross-sleeper *d*. This stay *e* at its top end is formed on each side with a flange, *g*, of suitable length, the upper side whereof is conformable in shape to and butts against the under side and central vertical portion of the rail-heads *f*. The outer edges of the stay *e*, from its apex at the flanges *g* and edge of rail-heads *f*, is curved convexly downward to

some distance along its length, and is widened from this distance upward to the level of the flanges *g* by similarly-curved side wings or webs, *h*, so that the upper outer portion of the stay *e* may present a flush convex descending surface from its line of contact with the edge of the rail-heads *f*. The stay *e* is provided at its lower end with a foot, *i*, which is strengthened by side ribs, *j*, and by which the stay *e* is bolted to the cross sleeper *d*.

Although the stay *e* is here described as applied at the joint between two rails *a a* it is equally applicable at any other part of a single rail, and by arranging a series of stays *e*, at suitable intervals along each side of the track the rail-heads *f* cannot spread, as at present.

By my invention there is no interference with the proper packing and construction of the road-bed. On the contrary, the stays *e* tend to confine and consolidate the macadam in the neighborhood of the track.

Owing to the descending convex surface imparted to the top portions of the stays *e*, where they leave the rails, the wheels of heavy vehicles will be more or less diverted from the track, and so prevented from destroying and rutting the macadam adjacent thereto.

When granite blocks are used in the formation of the road-bed, I dispense with the upper side wings or webs, *h*, and lower strengthening ribs, *j*, as above described, and use only a plain stay, *e'*, with flanges *g'*, as shown in Fig. 4.

I claim as my invention—

1. In street-railways, the combination, with the rails, of raking or inclined stays *e*, formed with upper flanges, *g*, and curved side wings, *h*, substantially as shown, and for the purpose described.

2. In street-railways, the combination, with the rails, of raking or inclined stays *e'*, formed with upper flanges, *g'*, substantially as shown, and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES K. DICKSON.

Witnesses:

S. L. SCHRADER,  
EDWIN SAUTER.