

No. 699,239.

Patented May 6, 1902.

J. D. REED.
RAILWAY SYSTEM.

(Application filed July 28, 1898. Renewed Nov. 26, 1900.)

(No Model.)

2 Sheets—Sheet 1.

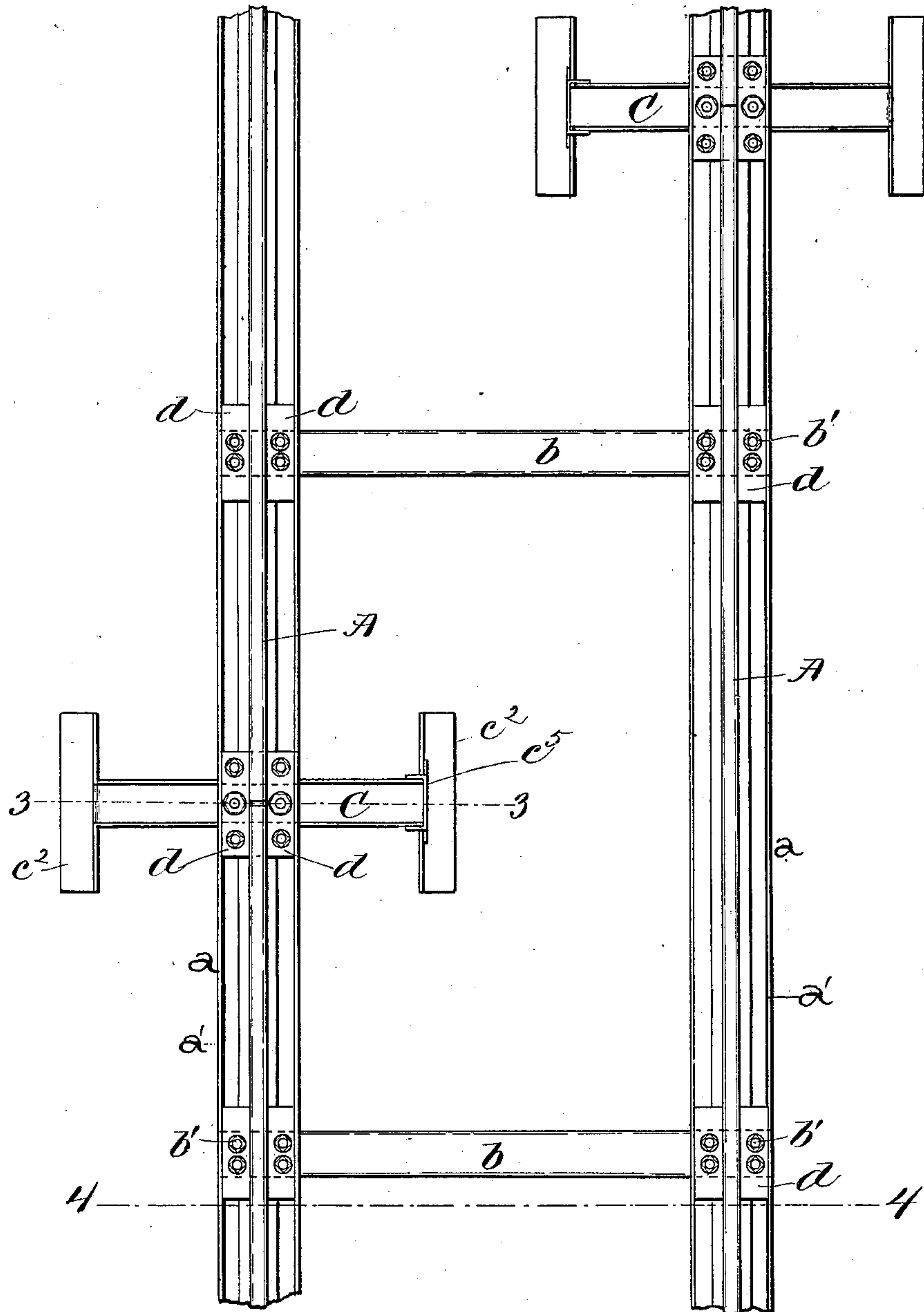


Fig. 1.

Witnesses:

Arthur F. Randall.
Henry M. Yellman

Inventor:

John Deering Reed
by Charles Drew
Atty.

No. 699,239.

Patented May 6, 1902.

J. D. REED.
RAILWAY SYSTEM.

(Application filed July 28, 1898. Renewed Nov. 26, 1900.)

(No Model.)

2 Sheets—Sheet 2.

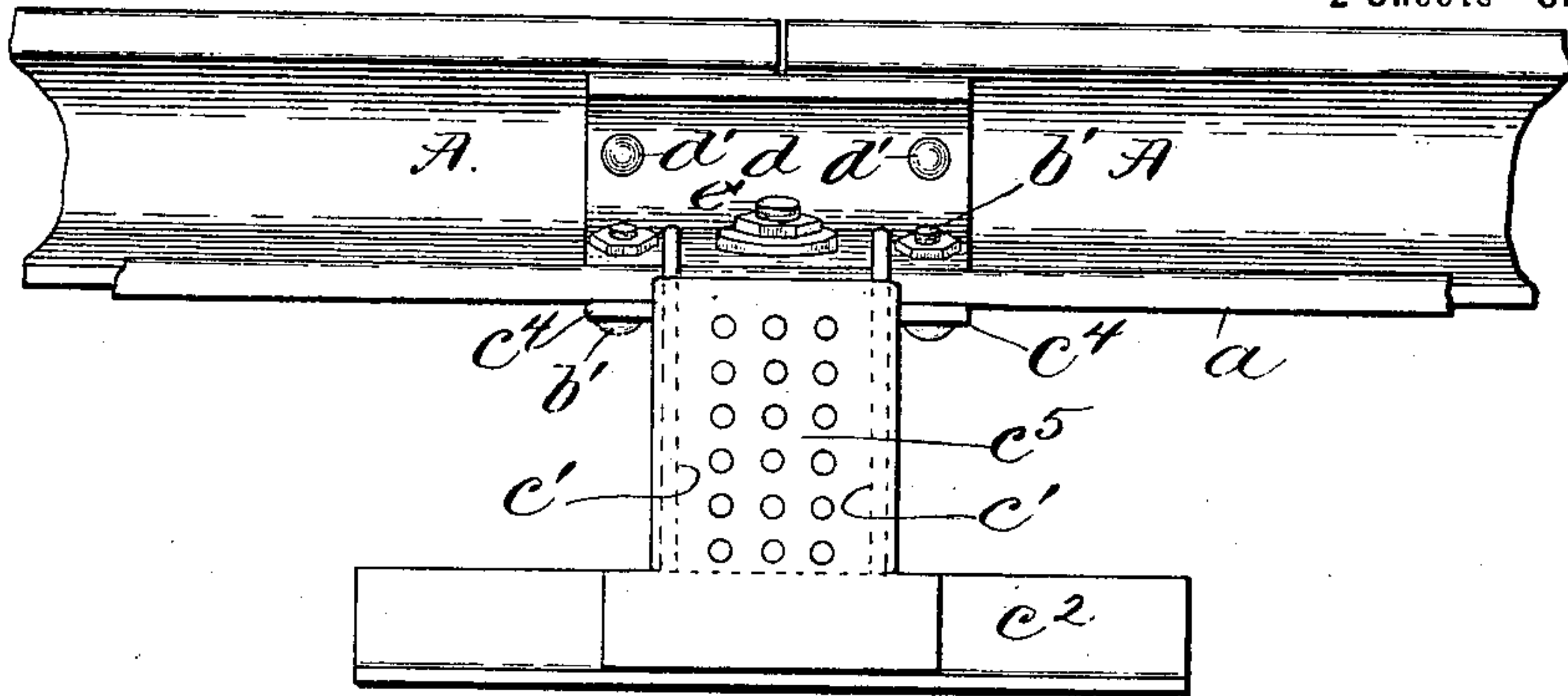


Fig. 2.

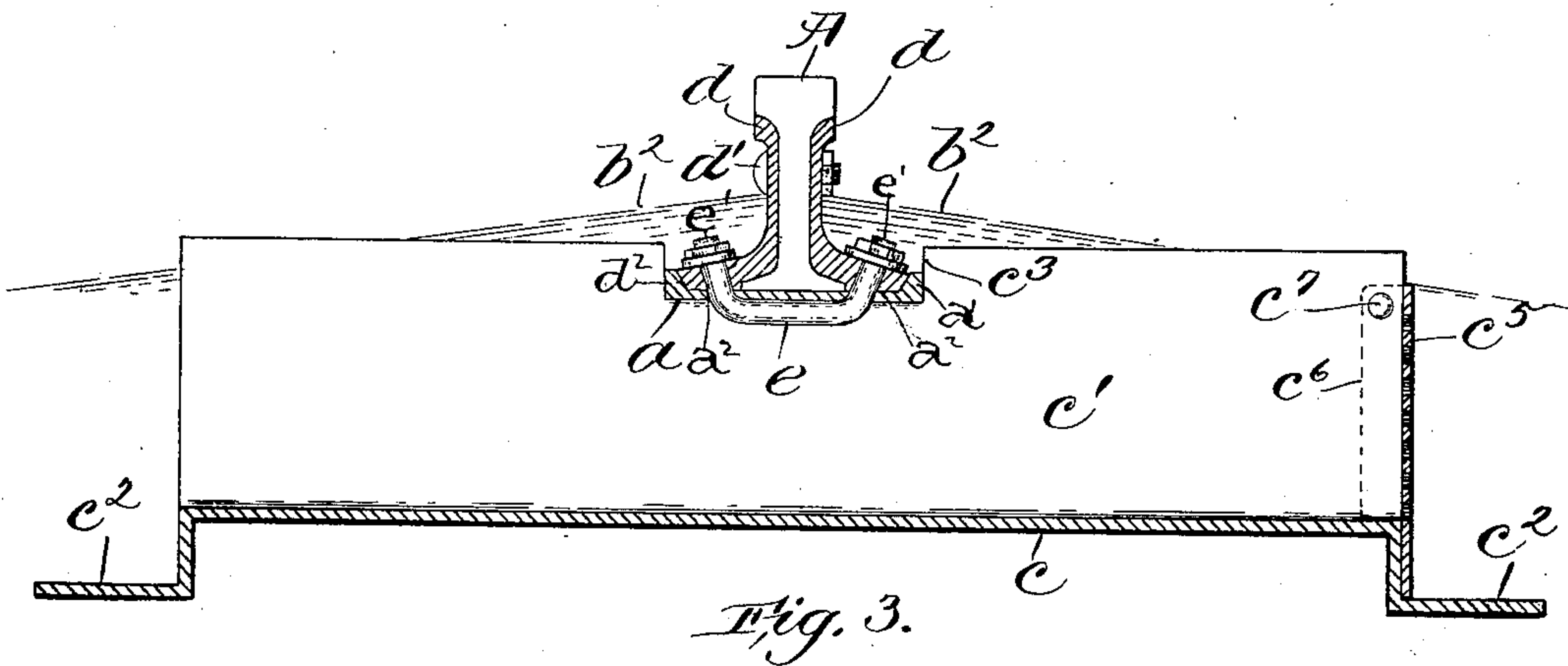


Fig. 3.

Witnesses:

Arthur F. Randall.

Henry M. Spelman

Inventor:

John Deering Reed
by Charles Reed
Atty.

UNITED STATES PATENT OFFICE.

JOHN DEERING REED, OF BOSTON, MASSACHUSETTS.

RAILWAY SYSTEM.

SPECIFICATION forming part of Letters Patent No. 699,239, dated May 6, 1902.

Application filed July 28, 1898. Renewed November 26, 1900. Serial No. 37,810. (No model.)

To all whom it may concern:

Be it known that I, JOHN DEERING REED, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Railway Systems, of which the following is a specification.

This invention relates to improvements in the construction of railway systems; and it has for its object to improve the construction thereof and to construct an entirely metallic system for either steam or street railways; and it consists in the arrangement and combination of parts, which will be more fully described hereinafter.

Of the drawings, Figure 1 is a plan view of the two rails of a railroad embodying this invention. Fig. 2 is a side elevation of a portion of one of the rails of the track shown in Fig. 1 viewed from the middle of the track and looking upon the end of one of the drain-chutes hereinafter referred to. Fig. 3 is a section taken on line 3 3 of Fig. 1.

In the construction herein described each rail A is supported by a base-support *a*, which preferably rests upon the road-bed, although it is evident that timber cross-ties may be employed, upon which said base-support may rest; but when an all-metal construction is desired metallic cross-tie gage-bars *b* are provided, the ends of which are secured to the under side of the base-supports *a a* by means of bolts *b'*, and said bolts *b'* may also serve to maintain in position rail-head angle-bars *d*, the functions of which latter are hereinafter set forth. These base-supports *a* consist of flat plates, which are considerably wider than the bases of the rails and which rest solidly upon the supports provided therefor. The bars *b* serve to hold the rails A the proper distance apart.

Means are provided whereby the base-supports *a* and rails carried thereby are secured in position upon the road-bed, so that all lateral or other displacement thereof is prevented, and said means is herein shown as embodied in a drain-chute, which is firmly attached to the base-support *a* and which is buried in the road-bed and serves to drain off water from between the tracks, as well as to anchor the latter in position upon the road-bed.

CCC represent the drain-chutes, which are arranged at intervals throughout the length

of the base-support *a* and rail carried thereby, and said drain-chutes preferably alternate with the gage-bars *b* and also alternate in position under the two rails of track, as shown in Fig. 1.

Each drain-chute C is preferably constructed of a single piece of sheet metal so formed and slitted as to be capable of being bent into the desired shape. Each drain-chute comprises a bottom *c* and sides *c' c'*, and the bottom *c* is formed at each end thereof with a projecting ledge *c²*, while each side *c'* is formed with a recess *c³*, in which rests the base-support *a*, and said recesses are formed by slitting the side walls *c'* and turning down a portion *c⁴*, which is secured to the under side of the base-support *a* by means of bolts *b'*.

The projecting ledges *c²* serve to prevent upward displacement of the rail and chute when buried in the road-bed, and the said road-bed is carried up to each end of the chute and against the sides to the grade-level shown at *b²* in Figs. 3 and 4.

At the inner end of the chute C, or that end located between the rails A, I provide a perforated plate *c⁵*, which serves to partly close that end of the chute and to prevent the road-bed washing through and filling up the chute, and said end plate *c⁵* is herein shown as formed with flanges *c⁶*, which are turned or bent back upon the side walls *c' c'* and secured thereto by means of rivets *c⁷*. This plate *c⁵* serves as a wall against which the road-bed is packed and which, as stated, prevents said road-bed washing through the chute C, while the perforations permit the water to pass freely therethrough.

As heretofore stated, the base-support *a* extends continuously with the rails A, and said base-support is formed on its upper face with longitudinal ribs *a'*, located at each side thereof, and the inner face or side of each of said ribs is inclined from the top of the rib downwardly toward the center of the base-support *a*, and as a support for the rail A and also for use as a rail-joint I provide angle-bars *d d*, which are secured one on each side of the rails A by means of bolts *d'*, and the upper edge of each angle-bar *d* is shaped to fit snugly up against the under side of the head of the rails A, and the lower edge thereof rests against the inclined inner face of the

ribs a' . Thus it will be seen that any downward pressure on the rails A will operate to force the angle-bar d more firmly against said rails.

5 As a means for securing the angle-bars d and rails A down upon the base-support a I provide an angle-bolt e , the body of which lies against the under face of the base-support a and the threaded ends $e' e'$ of which project
10 up through holes $a^2 a^2$, formed through said base-support a and through holes $d^2 d^2$, formed through the base of the angle-bars d , down upon which base portion nuts $e^2 e^2$ bear.

The peculiar shape of the bolt e serves to
15 draw the angle-bars d downwardly and inwardly, thus forcing said angle-bars inwardly against the rail A and downwardly against the base-support a .

It may be remarked here that the construction herein described enables me to construct
20 an entirely metallic railroad system, and by the employment of the drain-chutes heretofore described and by sloping the grade-level from each rail toward the center of the track
25 and from each rail outwardly I am enabled

to produce a dry road-bed, and the life of the road is lengthened and the necessity of repairs and readjustments of the parts obviated to a great extent.

What I claim, and desire to secure by Letters Patent, is—

1. In a structural support for railway systems, the rails and base-supports for each rail, combined with drain-chutes located at the union of the rails and forming supports for
35 the rails and base-supports, and which drain-chutes extend outwardly upon opposite sides of the rail, substantially as described.

2. The herein-described drain-chute, adapted to be bolted to the under side of the base-
40 support a , and consisting of a bottom c and sides $c' c'$, ledges $c^2 c^2$ at each end thereof, the perforated plate c^5 , at one end of the chute and the recesses c^3 for the reception of the base-support a , substantially as, and for the
45 purpose, above described.

JOHN DEERING REED.

Witnesses:

FAYETTE W. WHEELER,
CHAS. H. DREW.