

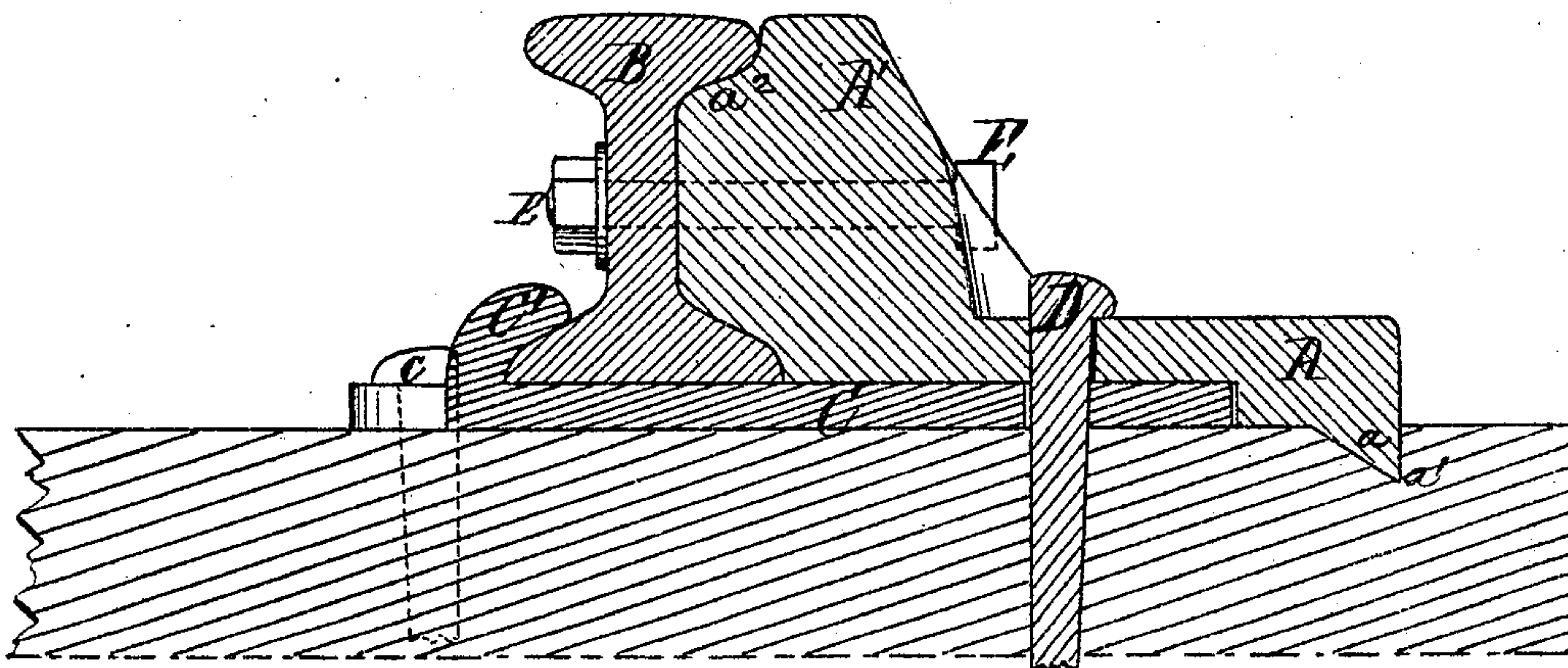
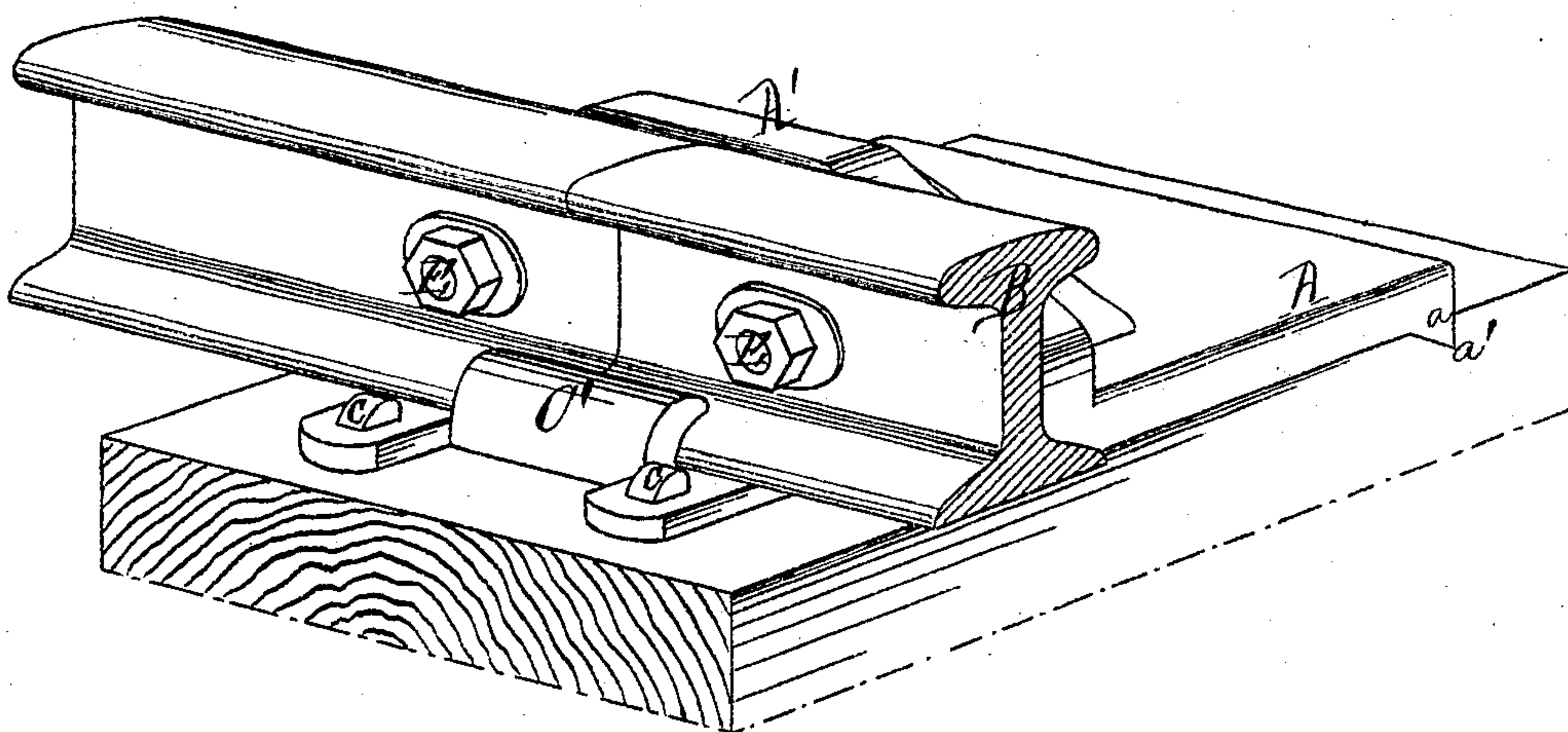
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GRANVILLE E. JARVIS.

Improvement in Railway Rail Chairs.

No. 119,520.

Patented Oct. 3, 1871.



Witnesses
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UNITED STATES PATENT OFFICE.

GRANVILLE E. JARVIS, OF GRAFTON, WEST VIRGINIA.

IMPROVEMENT IN RAILWAY-RAIL CHAIRS.

Specification forming part of Letters Patent No. 119,520, dated October 3, 1871.

To all whom it may concern:

Be it known that I, GRANVILLE E. JARVIS, of Grafton, county of Taylor, State of West Virginia, have invented a new and useful Improvement in Railroad Chair and Brace, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of my improvement, and Fig. 2 is a transverse vertical section.

The invention relates to that class of railroad-joints in which a carrier or short supplemental section or bar is employed at the junction of two rails, said carrier being designed to support the weight of the car-wheel while passing from one rail to another, thus saving the ends of the rails from the lamination or brooming up that attends the use of ordinary chairs. These carriers are usually constructed in such manner as to serve also to brace the rail against the outward thrust imparted by the wheel, thus preventing the track from spreading—a matter of much importance, especially upon short curves. The first part of the invention consists in so constructing the chair upon which the rail rests, and so combining it with the carrier and brace that the carrier may be secured to the tie independently of the chair, and that the chair may be drawn toward said carrier by means of a draw-spike, or equivalent device, without disturbing the relation of the carrier to the tie. The second part of the invention consists in forming the carrier with a recess or chamber in its lower side adapted to receive that portion of the chair which projects beyond the outer edge of the rail in such manner that the lower surfaces of both chair and brace-carrier shall be in the same horizontal plane, whereby they are adapted to rest upon the flat surface of the tie and the necessity of cutting a seat in said tie is obviated. The invention further consists in combining with the chair and the brace-carrier—the carrier being secured to the tie independently of the chair, and the chair being adjusted relatively to the brace-carrier, as set forth—a bolt, or a series of bolts, for securing the head or tread of the rail to the carrier, whereby said carrier is made to support the rail against the downward pressure of the car-wheel, and the joint is made more durable and effective, as will be fully explained.

In the drawing, A A' is the brace-carrier, A

being the base or that portion which rests upon the tie, and is secured to it by spiking. The rear end of the brace A is provided with a lip or rib, *a*, which is designed to set into a groove, *a'*, cut for its reception in the upper surface of the tie. The vertical or carrier-part A' is a little higher at the central part than the height of the rail with which it is designed to be used, and is, by preference, cast upon a chill. In practice the bearing-surface is beveled inward, as I find that there is less tendency to abrasion and crumbling of parts under this construction, and the ends should be sloped off so that they will not present abrupt shoulders to the approaching wheels. The inner face of the brace-carrier is made, by preference, to conform substantially to the outline of the rail which rests against it, it being particularly essential that the shoulder at *a*² should support the tread B of the rail. C is the chair, provided with a lip, C', which embraces the inner flange of the bar of the rail. The outer end of the chair is flat and extends some distance beyond the rail, running underneath the brace-carrier in a recess or chamber formed for its reception in the lower side of said brace-carrier, as shown in Fig. 2. The chair is not as wide as the brace-carrier is, consequently the chamber is not the full width of the base of the carrier; thus the carrier has an independent bearing on the tie at each side of the chair, as will be readily understood from an inspection of the drawing, without further description. The chair is spiked to the tie in the usual manner, as at *c*. D is the draw-spike or key, by means of which the chair and the base of the rail are firmly drawn to the brace-carrier, the arrangement of the holes through the carrier and chair being such as to facilitate the operation of drawing the parts together when spike D is driven in, as shown in Fig. 2. Under ordinary circumstances this one spike is all that is required to confine the brace-carrier properly to the tie, but more may be used if desired. E are bolts employed for confining the shank and tread of the rail to the brace-carrier. The perforations in the rail, through which these bolts pass, should be made long enough to allow for the expansion and contraction of the rails, and any desired form of nut-locking device may be used to prevent the nuts from backing off.

In applying my joint to rails I first cut the

groove a^1 in each end of the tie at such distance apart as will insure a proper distance between the rails when laid, and then place the parts in as nearly a proper position as may be, care being taken that the lip a fits accurately against the outer shoulder of grooves a^1 in the tie. I then put in the draw-spike D and drive it down until the chair and rail are brought to a firm bearing, and then drive in spikes c . The bolts E E are next put in and the head of the rail brought up tightly against the shoulder a^2 . It may sometimes happen that after the rail has been used for a short time the parts will become a little loosened, as they get swaged and seated to each other, in which case they should be tightened up; and it may be necessary to use a wider spike at D, the holes at this point being made large enough and bearing the proper relation to each other to admit of such drawing up as can ever be needed, and the holes through which spikes c pass should also allow of this proposed adjustment.

Although I have set forth the order in which I usually put my joint down, yet I do not wish to be confined to any particular method of doing it, and as, under some circumstances, I may find it advisable to dispense with the bolt E, I can in such case provide the inner end of the carrier-brace with lugs or spurs, which shall project

through the perforation occupied by the bolts, these spurs serving to prevent the rails from creeping, which they are very apt to do, particularly upon grades.

It will be readily seen that my joint is especially adapted for use in connection with reversible rails.

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

1. In combination with the brace A A', secured rigidly to the tie so as to support the rail against lateral thrust, the adjustable chair C and draw-spike D, or its equivalent.

2. The brace-carrier A A', provided with a recess or chamber upon its under side for the reception of the projecting portion of the chair, substantially as described.

3. The combination of the brace-carrier A A', the adjustable chair C, and bolts E E for securing the tread of the rail to the brace-carrier, substantially as set forth.

In testimony whereof I have hereunto set my hand this 25th day of July, A. D. 1871.

G. E. JARVIS.

Witnesses:

H. H. DOUBLEDAY,
N. B. SMITH.

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