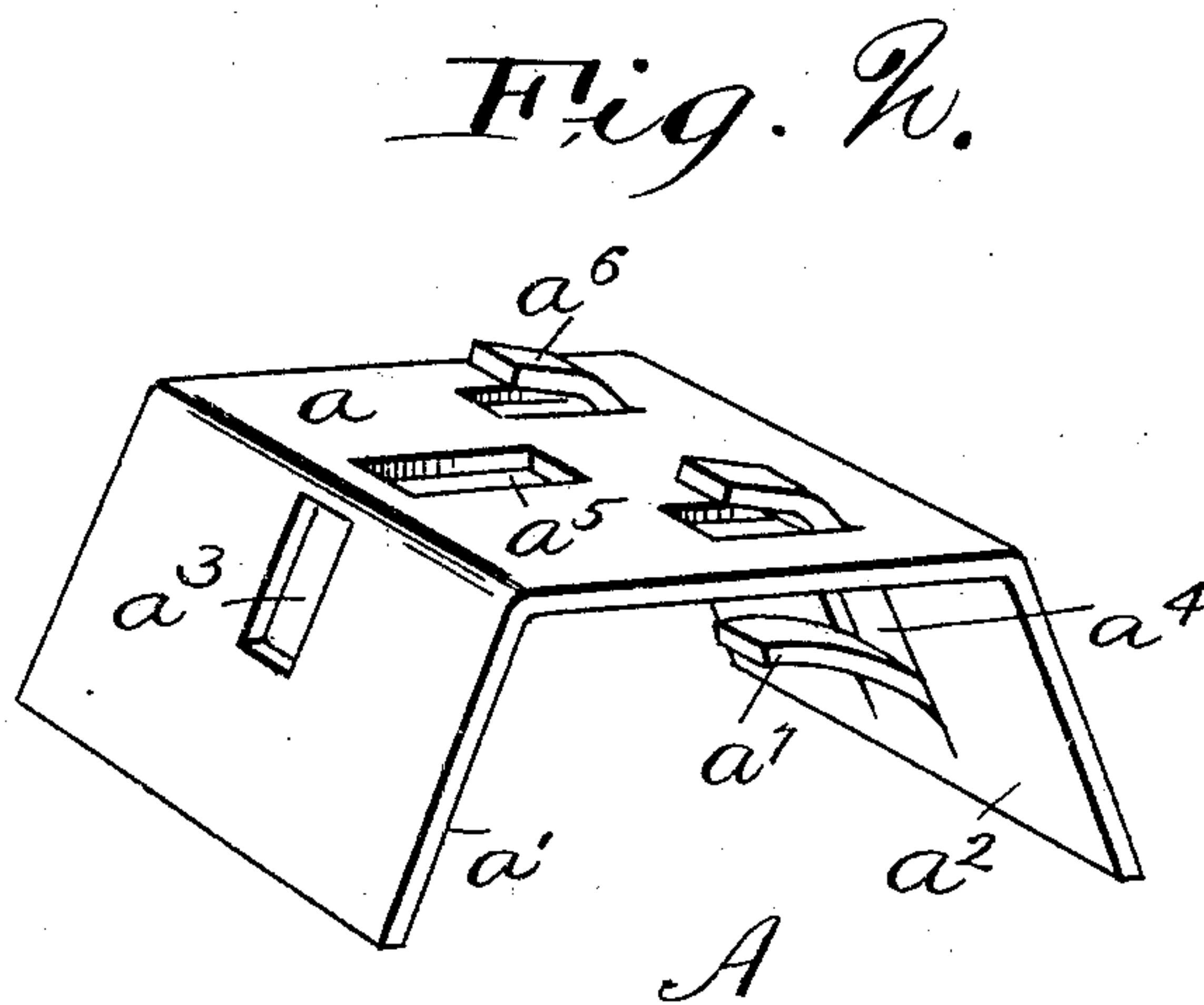
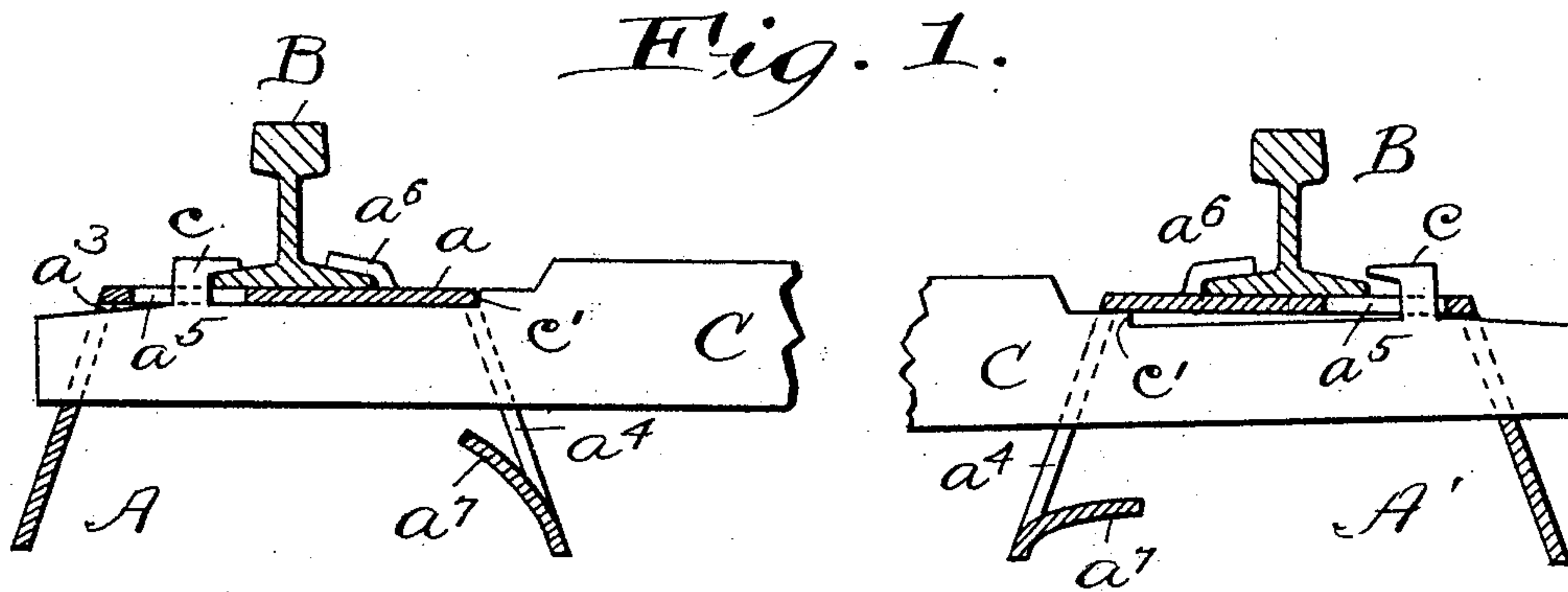


No. 771,035.

PATENTED SEPT. 27, 1904.

H. W. AVERY.  
METALLIC RAILWAY TIE.  
APPLICATION FILED JUNE 20, 1904.

NO MODEL.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

HENRY W. AVERY, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF TO THE AVERY STAMPING COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

## METALLIC RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 771,035, dated September 27, 1904.

Application filed June 20, 1904. Serial No. 213,232. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY W. AVERY, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Metallic Railway-Ties, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to the class of metallic railway-ties which include a tie-bar having upwardly-projecting hooks for engagement with the rail-feet, and two chairs, each having depending sides through which the tie-bar passes, and a seat which supports one of the rails and in which is a slot through which the tie-bar hook passes and on which seat are upwardly-projecting hooks for engagement with the rail-foot. In such tie-bars as heretofore constructed the engagement of the rail-feet with the hooks on the bar and on the chair prevents the rail from spreading and prevents the chairs from moving outward relative to the bar, but there is no such interlocking of the tie-bar rail and chair as will prevent relative inward movement of the chairs relative to the tie-bar.

The primary object of this invention is to prevent such inward movement, and the improvement whereby this result is positively secured is exceedingly simple and consists in forming on the upper edge of the tie-bar inwardly-faced shoulders, which when the rail-feet are in the embrace of the hooks on the tie-bar and chair will automatically engage with the chair, and thus block any tendency on the part of the chair to move inward relative to the rail.

In the drawings, Figure 1 is a side elevation, partly in vertical section, of a tie-bar embodying the present invention supporting two rails. Fig. 2 is a perspective view of one of the chairs.

Referring to the parts by letter, A A' represent the two chairs, which are or may be exactly alike. Each has a flat seat  $a$ , on which the rails rest, and two side members  $a'$   $a''$ , which depend from opposite edges of the seat and are

integral therewith. In these depending side members are slots  $a^3$   $a^4$ , respectively, for the passage of the tie-bar, and in the seat is a slot  $a^5$  for the passage of the hook  $c$  on the tie-bar C. The hole  $a^4$  in the inner depending members  $a''$ , when the tie-bar is being passed to place, must be as deep as the width of that part of the tie-bar on which the hook  $c$  is formed, so that this part of the tie-bar may be passed through said hole. Preferably the hole referred to is enlarged temporarily by turning down a tongue  $a^7$ , which tongue may be turned up against the tie-bar after the tie-bar is in operative position in said chair. It is not necessary, however, that this tongue be provided nor is it necessary that any means be provided for preventing the downward movement of the bar in the inner side member. Normally the weight of the chair causes the parts to occupy the position shown at the left of Fig. 1.

B B represent the rails, which rest upon the chair-seats, with the inner sides of the rail-feet extending beneath the hooks  $a^6$ , secured to or formed upon the chair-seat, and with the outer sides of the rail-feet engaging beneath the hooks  $c$ . When these rails are placed upon the chairs, the tie-bar and chair are in the relative position shown at the right of Fig. 1. The chair is then moved outward relative to the bar into the position shown at the left of Fig. 1, where the hook  $c$  engages snugly with the rail-foot. When it does so engage, the inner side of the chair drops down relatively behind an outwardly-faced shoulder  $c'$  on the tie-bar. This shoulder engaging with the chair prevents relative inward movement of the chair upon the bar. The outward movement of the chair upon the tie-bar is prevented by the engagement of the rail with the hook  $c$  and the engagement of the hook  $a^6$  with the rail-foot. The chairs and rails are therefore positively locked against relative movement in either the outward or inward direction and remain so locked until one shall have raised the inner side of a chair, so as to move it out of engagement with the shoulder  $c$ .

Having described my invention, I claim—



1. A metallic railway-tie, composed of two metallic chairs, each consisting of a flat seat in which there is a short slot, and two depending side members in which are alined  
5 holes for the passage of the tie-bar, and hooks rigid with said seat and projecting upward therefrom, combined with a metallic tie-bar which passes through the holes in the side  
10 members of said chair, and has on its top edge hooks which project through the slots in the chair-seats, said tie-bar being provided with shoulders adapted to engage with said chairs,  
15 hooks on the bar and chairs. to prevent their inward movement upon said tie-bar, when the rail-feet are engaged by the

2. A metallic railway-tie, composed of two metallic chairs, each consisting of a flat seat in which there is a short slot, and two depend-

ing side members in which are alined holes for the passage of the tie-bar, which holes do not  
20 connect with the slot in the seat, and upwardly-projecting hooks rigid with said seat, combined with a metallic tie-bar which passes through the holes in the side members of said  
25 chair, and has on its top edge hooks which project through the slots in the chair-seats, and has also outwardly-faced shoulders adapted for engagement with the inner parts of the  
30 chairs to prevent their inward movement upon said tie-bar.

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

HENRY W. AVERY.

Witnesses:

E. L. THURSTON,

ALBERT H. BATES.