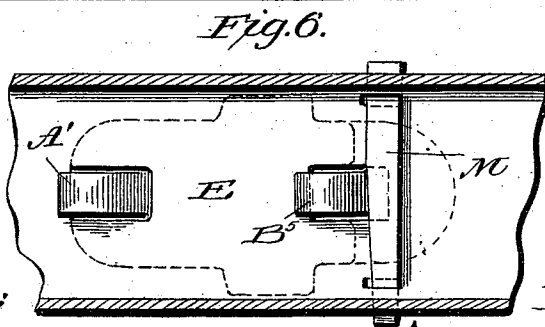
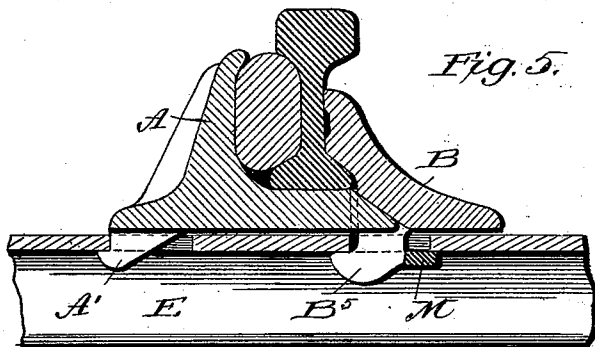
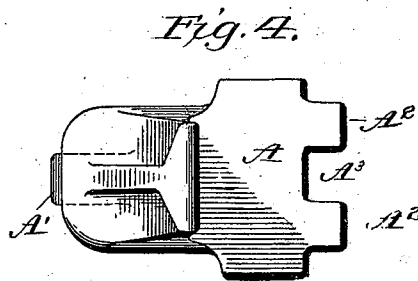
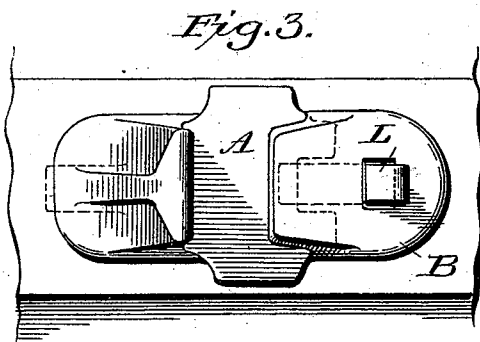
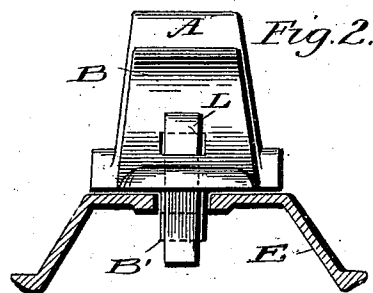
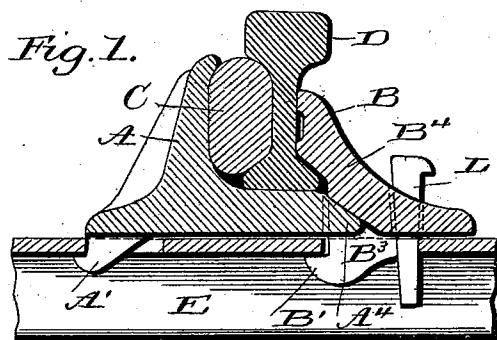


(No Model.)

J. WHITESTONE.
SECURING RAILS TO METALLIC SLEEPERS.

No. 554,014.

Patented Feb. 4, 1896.



Witnesses:
L. C. Hills.
J. D. Kingsbury.

Inventor:
James Whitestone.
By Whitaker & Brewster Attys.

UNITED STATES PATENT OFFICE.

JAMES WHITESTONE, OF LONDON, ENGLAND.

SECURING RAILS TO METALLIC SLEEPERS.

SPECIFICATION forming part of Letters Patent No. 554,014, dated February 4, 1896.

Application filed June 4, 1895. Serial No. 551,636. (No model.) Patented in England September 6, 1894, No. 16,983.

To all whom it may concern:

Be it known that I, JAMES WHITESTONE, a subject of the Queen of Great Britain, residing at London, England, have invented new and useful Improvements in Securing Rails to Metallic Sleepers, (for part of which I have obtained a patent in Great Britain, No. 16,983, dated September 6, 1894,) of which the following is a specification.

My invention relates to improved means of fastening and securing rails to metallic sleepers; and it consists in using for each attachment two brackets, one being on each side of the rail and having inclined meeting surfaces, which brackets together form virtually a chair within which the rail is secured by means of a key in the ordinary way, as hereinafter described and claimed.

In the following description it is to be understood that the words "inner" and "inward" refer to parts and positions relatively nearer to the center line of a railway of two parallel or concentric rails and that the words "outer" and "outward" refer to parts and positions relatively farther from such center line.

In the drawings annexed hereto like letters of reference indicate similar parts in the several views.

Figure 1 is a longitudinal section, and Fig. 2 a cross-section, through the sleeper, showing the brackets in position. Fig. 3 is a plan of the two brackets and part of the sleeper; and Fig. 4 is a plan of the outer bracket alone, these four views showing the arrangement when a vertical key is used. Fig. 5 is a longitudinal section, and Fig. 6 a sectional plan, through the sleeper, looking upward, these two views showing the arrangement when a horizontal key is used.

Referring to Figs. 1, 2, 3, and 4, the outer bracket, A, has its upper surface formed to support the lower head or flange of the rail D and extends or projects upward on the outer side of the rail so as to form an abutment for and to receive and press against the key C when the latter is driven in between it and the rail as usual in securing rails to chairs. This bracket is provided at its outer end and about the center of its width with a hook or lug A' projecting downward from its under side, which hook passes through a hole or slot

(by preference rectangular or thereabout) made in the upper part of the metallic sleeper E and extends outward thereunder and is formed with a vertical surface to bear against the outer end of the hole or slot. The inner end of this bracket extends inward beyond the rail and has its upper surface at A⁴, Fig. 1, inclined downward and inward to receive and bear against the under side of the inner bracket, and a notch or gap A³, Fig. 4, is made about the center of its width to allow space for the reception of the hook or lug B' of the inner bracket, B, next described.

The inner bracket, B, extends or projects upward on the inner side of the rail so as to form an abutment for and to receive and press against the web of the rail and so as to resist the pressure caused by the key C acting upon the opposite or outer side of the rail. This inner bracket is provided at its outer end and about the center of its width with a hook or lug B' projecting downward from its under side, which hook passes within the notch or gap in the outer bracket and through a hole or slot (by preference rectangular or thereabout) made in the upper part of the metallic sleeper E and extends outward thereunder. This hook or lug B' has its inner end formed with a shoulder or plane surface B³, inclined to fit and bear against the tapered metallic key L, which I term the "wedging-key." This key passes through the last-mentioned hole or slot in the sleeper and also through a hole in the bracket B, with a space or clearance at the inner side of the key, as shown by dotted lines in Fig. 1. Part of this inner bracket projects over and bears upon the inclined upper surface A⁴ of the outer bracket above described, and has its under side formed with a plane surface B⁴, inclined upward and outward to fit the same.

When the brackets A and B are in their proper places, with their hooks or lugs in the respective holes or slots in the sleeper and the wedging-key L then driven in, that key acting against the inner end of the inner slot and the surface B³ causes the bracket B to be pressed outward against the outer bracket, A, which is in turn pressed outward until the vertical part of the hook or lug A' comes in contact with the outer end of the outer slot in the sleeper. The mutual reaction of the

inclined surfaces A¹ and B¹ then causes the inner end of the bracket A to be forced downward, (since the projection of the hook B' beneath the sleeper prevents the bracket B from rising,) and consequently the upper part of the sleeper is firmly gripped between the hook B' and the under side of the bracket A. The parts are thus brought tightly into contact and firmly fixed in position, forming virtually a chair, within which the rail is secured by means of the key C in the usual way.

In removing the parts without disturbing adjacent attachments the wedging-key L is withdrawn and the bracket B can then be pushed inward until the hook B' is clear of the under side of the sleeper, when this bracket can be lifted out. By slightly raising the rail by means of the ordinary plate-layer's hand-spike and pushing inward the outer bracket, A, until its hook A' is clear of the under side of the sleeper this bracket can be lifted and withdrawn. The several parts may be replaced in the inverse order of their removal.

In Figs. 5 and 6 a modification is shown in which the hook or lug B³ of the inner bracket has its inner end formed with a vertical surface to fit and bear against the tapered key M, which key passes horizontally through holes in the sides of the sleeper and when driven in acts against the inner ends of these holes and against the inner end of the lug B³, causing the inner bracket to be pressed outward, and thus bringing tightly into contact and firmly fixing the several parts so as to form virtually a chair, as before described.

Instead of one hook or lug either or both of the brackets may have two hooks or lugs passing through corresponding holes or slots in the metallic sleeper.

By preference a pad of felt is interposed between the sleeper and the brackets.

In the above description and the drawings herewith the application of my invention to

rolled transverse sleepers has been particularly set forth; but sleepers of any other suitable form and material may be used.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a rail-fastening the combination with the metallic sleeper provided with securing-apertures, of a bracket provided with a retaining-lug engaging one of said apertures and having a part engaging the sleeper for supporting the foot of a rail, said part having an inclined face, an opposing bracket having a lug for engaging one of said apertures in the sleeper, and an inclined part for engaging said inclined face, and a wedging-key for engaging one of said brackets and the sleeper for forcing said bracket transversely of the rail to force said inclines together and clamp the brackets to the sleeper, substantially as described.

2. In a rail-fastening the combination with the metallic sleeper provided with securing-apertures, of a bracket provided with a hook-shaped retaining-lug engaging one of said apertures and having a part for engaging the foot of the rail, lying upon said sleeper, said part having an inclined face, an opposing bracket provided with an incline for engaging said inclined face and having a hook-shaped lug extending in the same direction as the lug of the other bracket and engaging one of said apertures and a wedging-key engaging said latter bracket and the sleeper for forcing said bracket transversely of the sleeper whereby said inclined faces are forced together and said lugs are held in engagement with the sleeper, substantially as described.

JAMES WHITESTONE.

Witnesses:

G. F. REDFERN,
JOHN E. BOUSFIELD.