

(No Model.)

2 Sheets—Sheet 2.

T. D. WEST & G. H. BOYD.
METALLIC SLEEPER FOR RAILWAY TRACKS.

No. 578,476.

Patented Mar. 9, 1897.

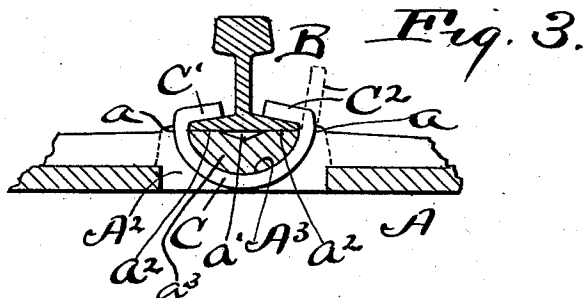


Fig. 4.

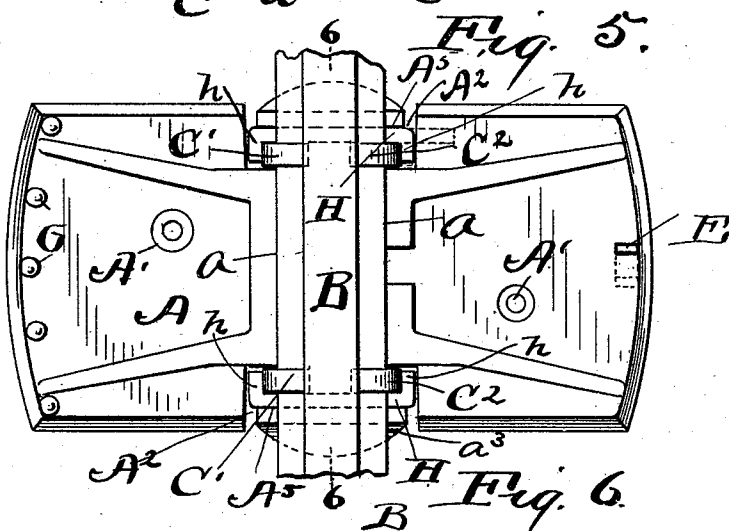
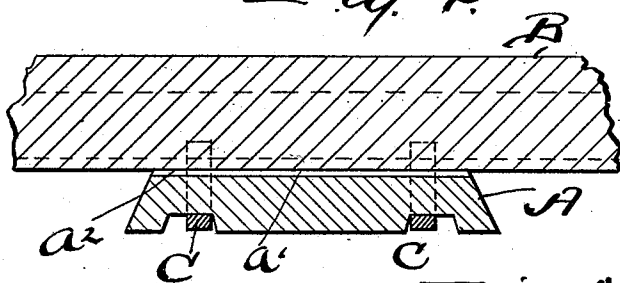
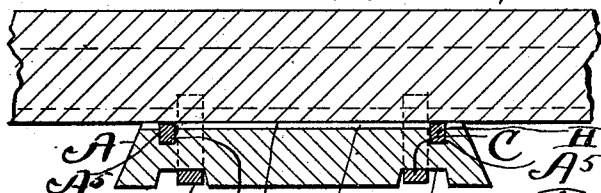


Fig. 6.



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UNITED STATES PATENT OFFICE.

THOMAS D. WEST AND GEORGE H. BOYD, OF SHARPSVILLE, PENNSYLVANIA.

METALLIC SLEEPER FOR RAILWAY-TRACKS.

SPECIFICATION forming part of Letters Patent No. 578,476, dated March 9, 1897.

Application filed May 20, 1895. Serial No. 549,938. (No model.)

To all whom it may concern:

Be it known that we, THOMAS D. WEST and GEORGE H. BOYD, of Sharpsville, in the county of Mercer and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Sleepers for Railway-Tracks; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

Our invention relates to improvements in metallic sleepers for railway-tracks; and it consists in certain features of construction and combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a top plan of a portion of a railway-track, showing one of our improved sleepers under each rail of the track, the means employed for securing the rails to the sleepers, and the tie-rod that connects the sleepers together. Fig. 2 is a vertical section on line 2 2, Fig. 1. The central portion of the tie-rod is broken away in said figures to reduce their size. Figs. 3 and 4 are vertical sections on line 3 3 and line 4 4, respectively, Fig. 1. Fig. 5 is a top plan of a portion of a rail and sleeper. Fig. 6 is a vertical section on line 6 6, Fig. 5.

Our improved sleeper consists of a metallic plate A, whose lower or under surface is flat, as shown, whereby the sleeper is adapted to be laid on a level ground or to be spiked or bolted down to any support, and the sleeper is provided with any suitable number of vertical holes A' (see Figs. 1 and 5) for the reception of spikes or bolts employed in case the sleeper is secured to a support other than that afforded by the ground.

The central portion of the sleeper extends, preferably, somewhat above the body portion of plate A, and is flanged upwardly, as at *a*, (see Figs. 1, 2, and 5,) at opposite sides of the portion engaged by the rail B, supported from the sleeper. Flanges *a* are arranged a suitable distance apart to accommodate the location of the base of the rail between them, and said flanges are arranged parallel with each other and, of course, parallel with the line of the rail. The function of the parallelly-arranged flanges *a* is to prevent lateral

displacement of the rail supported by the sleeper.

The portion of the sleeper between the parallelly-arranged flanges *a* is provided centrally with a depression *a'*, that extends, preferably, from end to end of said portion of the sleeper, as shown in Fig. 4, and is arranged parallel with flanges *a*, the provision of said depression forming two seats *a*² for the rail, which seats are therefore located at opposite sides, respectively, of said depression at the inner sides of the aforesaid flanges.

The formation of two rail-seats *a*² upon the sleeper affords a uniform bearing for the rail, and by the provision of the depression in the sleeper between said seats jarring or vibration of the rail is greatly reduced.

Bolts and nuts are not required for securing the rail to our improved sleeper, but, instead, one or more strips of wrought metal C are employed for securing the rail to the sleeper, and plate A is perforated or cut away, as at A², to accommodate the location and application of said securing strip or strips.

Plate A of the sleeper is provided with two perforations or holes A² for each securing-strip C, said holes being located a suitable distance apart and at opposite sides, respectively, of the rail-bearing portion and form an arm *a*³ between them, and the securing-strip terminates at one end in a laterally and inwardly bent member C', adapted (see Figs. 2 and 3) to engage the upper surface of the base of the rail at one side of the rail-web, and said strip C thence extending downwardly through one of holes A², in under the respective member *a*³ of the sleeper, and thence upwardly through the other hole A², where it is bent over the upper surface of the rail-base at the opposite side of the rail-web.

The portion (arm or member *a*³) of the sleeper between holes A² A² is preferably provided with a semicylindrical or convex lower surface A³ (see Fig. 3) to facilitate the application of the securing-strip, and we would here remark that the securing-strip C is preferably made semicircular or curved to conform to said semicylindrical or convex surface A³ of the plate of the sleeper with one of its ends projecting laterally and inwardly to form member C', and that the semicircu-

larity of the under surface of the portion of plate A between holes A² A² readily accommodates the placing of said securing-strip in position with its laterally and inwardly projecting member C' engaging the upper surface of the base of the rail at one side of the rail-web, as hereinbefore described, so that the securing-strip, when it has thus been placed in position, is secured in place by bending the upwardly-projecting end thereof C² (shown by dotted lines in Fig. 3) laterally and downwardly upon the upper surface of the rail-base at the opposite side of the rail-web.

By the construction just hereinbefore described it will be observed that the securing-strips C fasten both sides of the rail to the sleeper without requiring the use of bolts or other expensive or objectionable fastening devices, and we would here remark that the lowest extremity of surfaces A³ engaged by the securing-strips is preferably located such a distance above the under flat surface of plate A that said securing-strips shall not protrude below said surface of plate A.

Adjacent sleepers under the different rails, respectively, of the railway-track are tied together by means of a rod or binder D, that at its ends is bent downwardly, as at d, into holes A⁴, formed in the sleepers below the rail-seat-bearing portions of the sleepers, as shown in Fig. 2, by which construction it will be observed that the tie-rod or binder cannot be removed without first removing the rails, which is desirable.

The sleepers connected by a tie-rod or binder are preferably provided, respectively, with an upwardly-projecting metallic member E, that is bent downwardly over the tie-rod after the assemblage of the parts and assists in firmly holding the tie-rod down upon the plates or body portions of the sleepers.

We would also remark that plate A of the sleeper is provided with any suitable number of upwardly-projecting lugs G along the outer edge, which lugs prevent displacement of the sand, cinders, or ballast from the outer portion of the sleeper, and consequently said lugs are instrumental in the maintenance of a level road along the outer sides of the railway-track.

We would also remark that if desired the

rail-seat-bearing portion of the sleeper may at the outer side of each securing-strip C be provided with a recess A⁵, arranged transversely of said portion of the sleeper and engaged by a metallic strip H, that extends through said recess and is bent laterally at each end, as at h, to overlap the outer side of the securing-strip C at each side of the rail and thereby caused to positively lock said securing-strip in its operative position.

It will readily be observed, and we would have it understood, that any suitable number of securing-strips C may be provided at any suitable point, and, if desired, at a point intermediate of instead of at the ends of the rail-engaged portions of the sleepers.

What we claim is—

1. The combination with the sleeper and rail supported thereby, the sleeper being provided with two perforations at opposite sides, respectively, of the base of the rail, and the portion of the sleeper, between said perforations, being provided with a semicylindrical or convex under side, of a semicylindrical or approximately semicylindrical metallic fastening-strip engaging said convex surface and extending upwardly through the aforesaid perforations and overlapping the rail-base at each side of the rail-web, substantially as shown, for the purpose specified.

2. The combination with the sleeper and rail supported thereby, of a securing-strip extending in under the seat-bearing portion of the sleeper and overlapping the rail-base at each side of the rail-web, the seat-bearing portion of the sleeper being provided with a recess arranged transversely of said portion and between the securing-strip and adjacent edge of the sleeper, and the metallic strip extending through said recess and overlapping the outer sides of the securing-strip at each side of the rail, substantially as shown, for the purpose specified.

In testimony whereof we sign this specification, in the presence of two witnesses, this 30th day of April, 1895.

THOS. D. WEST.
GEORGE H. BOYD.

Witnesses:

J. R. WHITLY,
MARY ADAMS.