H. GEBHARDT.

CONCRETE RAILWAY TIE.

APPLICATION FILED DEC. 5, 1910.

1,065,797.

Patented June 24, 1913.

FIG. 1

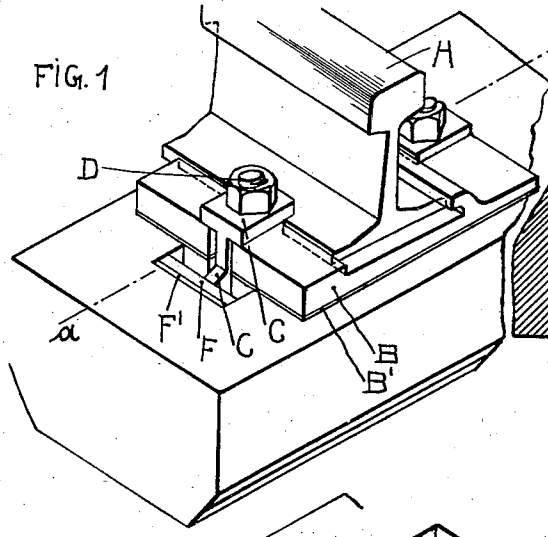


FIG. 4

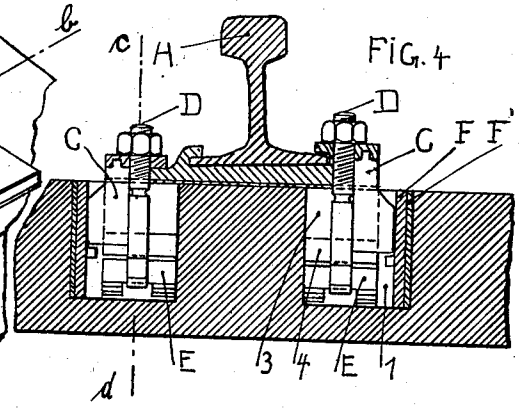


FIG. 5

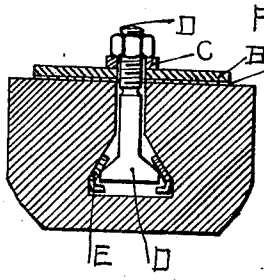


FIG. 2

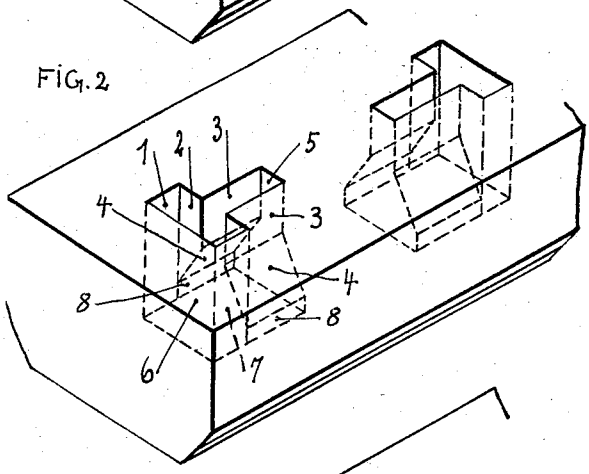


FIG. 6

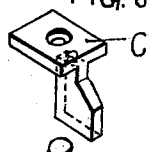


FIG. 7

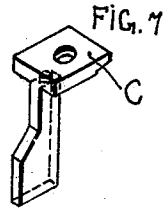


FIG. 10

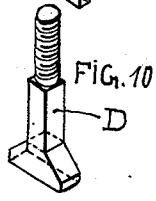


FIG. 3

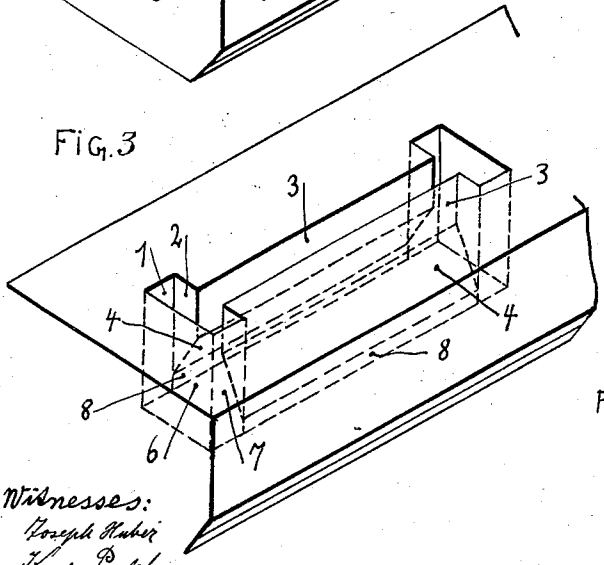


FIG. 9

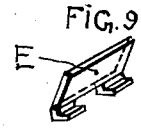
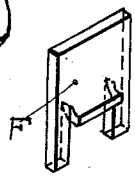


FIG. 8



Witnesses:
Joseph Huber
Karl Pokel

Inventor:
Heinrich Gebhardt

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HEINRICH GEBHARDT, OF MUNICH, GERMANY.

CONCRETE RAILWAY-TIE.

1,065,797. Specification of Letters Patent. Patented June 24, 1913.

Application filed December 5, 1910. Serial No. 595,742.

To all whom it may concern:

Be it known that I, HEINRICH GEBHARDT, a subject of the King of Saxony, residing at Munich, in the Kingdom of Bavaria, German Empire, have invented a new and useful Improvement in Concrete Railway-Ties; and I do hereby declare the following to be a full, clear, and exact description of the same.

The present invention relates to a railway tie or sleeper of concrete provided with pockets in the concrete, said pockets having inclined sides and becoming wider toward the bottom and being adapted to receive and engage the rail-clamping members (bolts and key-blocks). In order to facilitate the insertion and removal of said rail-clamping members, each pocket is provided at its end with a suitably shaped recess.

The advantages of the present invention consist in the possibility of removing and replacing any one of the rail-clamping members on account of deterioration, such as bolts, key-blocks and press-plates, without lifting the rail or in any way disturbing the concrete sleeper. In this way the sleeper can be kept indefinitely intact and the cost of up-keep is greatly reduced.

Reference being had to the accompanying drawing, Figure 1 is a perspective view of the clamping device seen from above; Fig. 2 is a perspective view of one end of the sleeper, showing two pockets; Fig. 3 shows a modified form of Fig. 2; Fig. 4 is a section along the line *a*—*b* of Fig. 1; Fig. 5 is a section along the line *c*—*d* of Fig. 4; Fig. 6 shows a member adapted to prevent the lateral shifting of bolts which have become loose; Fig. 7 is a modified form of Fig. 6, the member being here provided with a specially formed head plate for engaging the base-flange of the rail; Fig. 8 shows a plate adapted to receive the pressure of the member shown in Figs. 6 and 7. By using plates of different thicknesses, the gage may be varied to a certain degree in one and the same size of sleeper. Fig. 9 shows a pressure plate, adapted to receive the pressure of the head of the clamping bolt; Fig. 10 shows a clamping bolt.

The pockets 3, 4, 8, 7, 5 of Fig. 2 and 3, 4, 8, 7, of Fig. 3 are adapted to contain the bolt D and in part also the members Fig. 6 and Fig. 7. In order to facilitate the insertion and removal of the bolt D, each pocket has at its end an enlarged recess 1, 2, 6, 7 of Figs. 2 and 3.

In the form of construction according to Fig. 2 the sleeper contains two separate pockets for each rail; in Fig. 3 these pockets, are elongated till they meet and form one single groove, having an enlarged recess at either end.

The clamping of the rail to the sleeper is accomplished as follows: After the pressure plates E, Fig. 9, have been inserted in the pockets of the sleeper, the recessed base-plate B B′, Fig. 1, is placed in position above said pockets; the pressure plates E are each provided with a foot so that they will remain erect in the desired position. The bolt D, Fig. 10, is then inserted into the enlarged recess 1, 2, 6, 7 of Fig. 2 or 3 and pushed along the pocket against the base-plate B. The space remaining between the bolt D and the wall 6 of Fig. 2 or 3 is then filled out with the help of the members C, Fig. 6, C, Fig. 7, and F and F′, Fig. 1, the member F being provided with a lug engaging under the member C. It is now only necessary to screw the nut onto the bolt and to tighten the same, whereupon the rail is securely clamped to the sleeper. An elastic plate B′ may also be placed directly on the surface of the sleeper in order to deaden the concussion. The length and section of the pockets 3, 4, 8, 7, 5 of Fig. 2 and 3, 4, 7, 8 of Fig. 3, and of the recesses 1, 2, 6, 7 of Figs. 2 and 3 may be varied as desired.

What I claim as my invention, and desire to secure by Letters Patent, is:

1. In combination, a concrete sleeper having formed therein a hole having a dove-tailed recess formed directly in the concrete itself, a screw-bolt having a dove-tailed head adapted to be received in said recess; exchangeable supporting plates interposed between said head and the concrete, and lateral inserts inserted in said hole to prevent the bolt head from leaving the recess.

2. In combination, a concrete sleeper having therein a T-shaped pocket comprising a transverse hole and a longitudinal undercut dove-tailed recess communicating therewith; a screw-bolt having a dove-tailed head adapted to be loosely inserted in said recess and substantially conforming in shape thereto; a flanged rail on said sleeper; movable plates disposed between the in-

clined sides of said recess and head; a washer member on said bolt and engaging over the flange of the rail and having an extension engaging in said hole; a filling member in said hole and having a lug engaging under said extension; and an additional member between the filling member and the wall of the hole.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

HEINRICH GEBHARDT.

Witnesses:
AVERE W. COTTER,
MATHILDE K. HELD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."