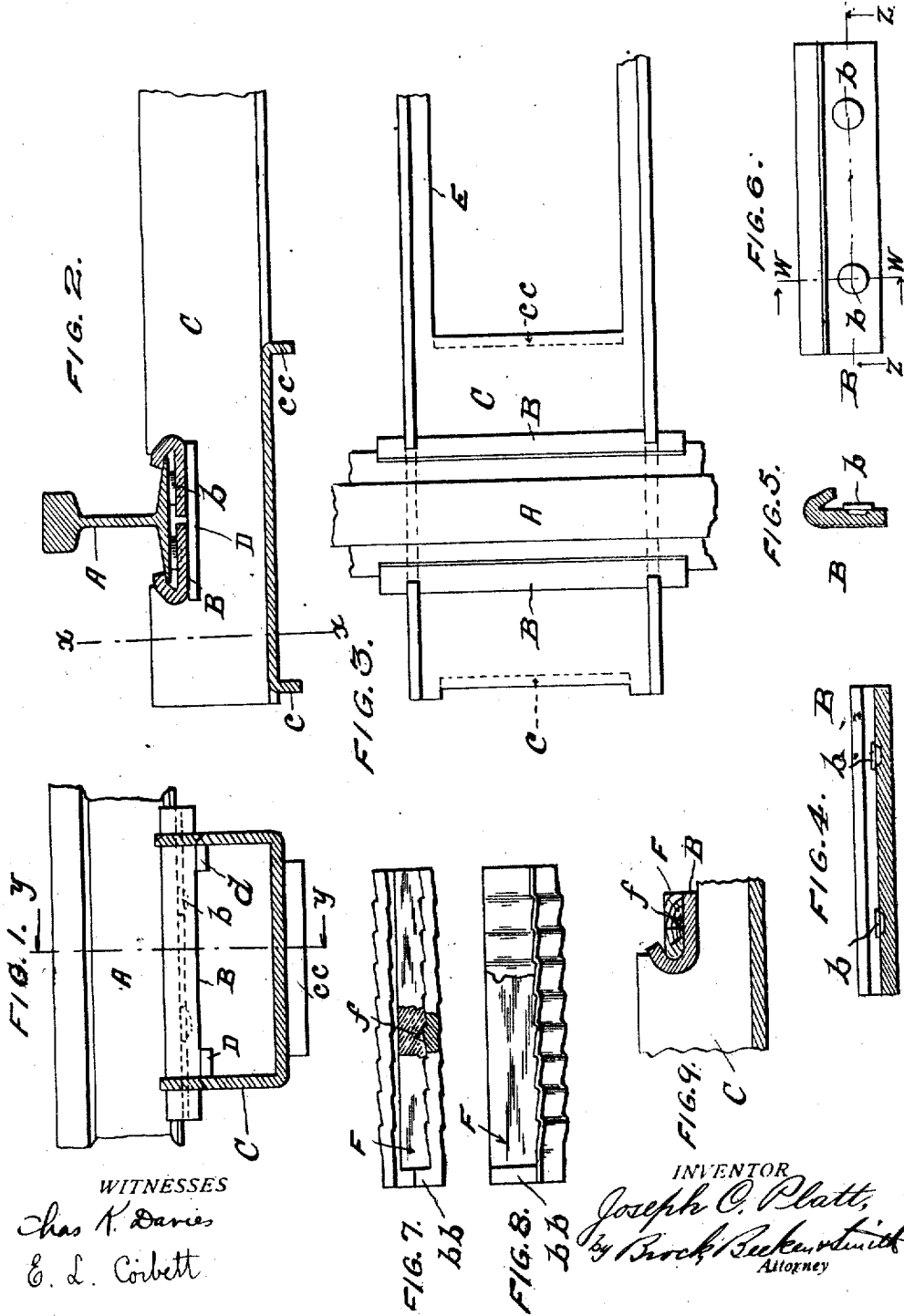


J. C. PLATT.
STEEL RAILROAD TIE AND RAIL GRIP.
APPLICATION FILED APR. 15, 1908.

Patented Sept. 7, 1909.

933,264.



UNITED STATES PATENT OFFICE.

JOSEPH C. PLATT, OF OGDEN, UTAH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH C. PLATT, a citizen of the United States, residing at Ogden, in the county of Weber, State of Utah, have invented a new and useful Steel Railroad-Tie and Rail-Grip; and I do declare the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, and the letters of reference marked thereon.

My invention is intended to be used in the construction of railroads to be laid on the grade thereof and on them to be placed the railroad rails, and is intended to take the place of certain wooden ties which have been generally used heretofore.

This invention can be placed on the earth or gravel bed and when so used will not set or bind; it can also be used in concrete construction and in like manner can be used on street railways on paved streets. It can also be used on wooden wharfs or trestles and as well on steel bridges. There are no pins or spikes required, the rail being clutched by the wedge to the tie. The bearing of the steel rail on the tie is cushioned at four points of contact on soft Babbitt-metal or on wood or composition as may be desired, substantially as shown in the drawing and is hereafter described and claimed.

In the drawing Figure 1 is a transverse section on line *x-x* of Fig. 2 through the end of a tie embodying my invention with the rail in position. Fig. 2 is a longitudinal section on the line *y-y* of Fig. 1. Fig. 3 is a plan of one end of a tie with the rail in position. Fig. 4 is a longitudinal vertical section on the line *z-z* of Fig. 6, of one of the wedges. Fig. 5 is a transverse section on the line *w-w* of Fig. 6, of a similar wedge. Fig. 6 is a plan of a wedge. Fig. 7 is an elevation of a modified form of wedge with serrated faces and with a wooden cushion block, a portion of the wedge and block being shown in section. Fig. 8 is a plan of the wedge and block of Fig. 7 one end of the wooden block being broken away. Fig. 9 is a transverse section through the wedge of Figs. 7 and 8 showing the wedge in position on the tie.

Similar letters refer to similar parts throughout the several views.

In the accompanying drawings A represents an ordinary railroad rail; B represents

the wedge or clutch which fastens the rail to the tie; C the tie itself; D a portion of the tie which is called the lock; E a portion of C forming the flange; F the wooden contact plate. The tie C is constructed from a solid piece of sheet steel; the sides being a portion of the sheet steel turned at right angles forming the box or trough (Figs. 1 and 2).

(Figs. 1 and 2) represents a portion of the bottom of C cut in at both ends of C and turned down and is designed to strengthen C and prevent the tie from shifting, and when the tie is used on wooden wharfs or trestles c can be mortised into the timbers thereof.

D represents a portion of C, cut proper size and shape to admit B (Fig. 1) and turned nearly at right angles on the inside of C forming the lock D (Fig. 1), D in not being turned directly at right angles to C (Fig. 1) serves as a spring against B and prevents B from working out of position.

E represents a portion of C cut proper size and shape, somewhat smaller than D, turned directly at right angles to C forming a base for B.

B the grip or wedge is a piece of steel made wedge shape, thicker on one end than on the other, and of sufficient length to slightly more than cross the tie and so constructed as to fold over and grip the base of the rail A, and when B is driven under A in the slit cut in C, B binds A securely to the tie C. Two wedges B are used and must be driven from the same side of C and on opposite sides of the rail A, thereby binding firmly all parts of the base of A to C. B may be made either plain (Figs. 4-5-6) or corrugated (Figs. 7-8). The purpose of the corrugated wedge is to prevent it from slipping or working out of C. Where wood is used as a contact plate in B such as F (Fig. 7) B should be slightly raised at the large end of the wedge *b b* and the point *f* can be punched through the bottom of the wedge B (Figs. 7-9) and this will prevent F from slipping out of the wedge B when driven under the rail A. This corrugated wedge may be used either with the wood contact plate or the Babbitt-metal or composition metal plates *b* as shown in Figs. 4 and 6.

b is a soft piece of Babbitt-metal or composition which is dropped or placed into a

flared hole in the top of the wedge B and is to be placed in loosely so that when *b* becomes worn or compressed it can be easily replaced by driving back the wedge B and substituting for it a new Babbitt-metal or composition which can be done by simply placing them in position when B can again be replaced in C.

F is a piece of wood made to fit the base of B and should be approximately the same length as B. The purpose of *b* and F is to prevent jarring and give elasticity to the joint formed between A and B.

The bottom or central portion of C as shown in the plan (Fig. 3) may be cut out leaving the flange E near each perpendicular side of C. This also permits of *c c* being turned down which will again reinforce and strengthen C in the same manner as heretofore explained in regard to *c*. The portion of C removed by cutting out the bottom may be used for the purpose of manufacturing the wedge B (Figs. 6-8). This open space in the bottom of C prevents center binding of C on a road-bed. After C is in position on the road-bed it may be filled with ballast such as gravel, mortar, concrete, masonry, or any substance which may be desired.

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

1. The combination of a rail, a tie provided with a slot accommodating the rail base, wedges intermediate the rail base and the slot, the wedges including bases underlying the rail base, and flanges engaging the rail base, and relatively soft blocks carried

by the bases of the wedges and supporting the rail.

2. The combination of a rail, a cross-tie of channel section provided with slots to accommodate the rail base, portions of the tie being turned inward at the bottoms of the slots, and wedges intermediate the rail base and the slots, each wedge comprising a base underlying the rail, and a flange engaging the edge of the rail base.

3. The combination of a rail, a cross-tie of channel section provided with slots to accommodate the rail base, portions of the tie being turned inward at the bottoms of the slots, and wedges intermediate the rail base and the slots, each wedge comprising a base underlying the rail, a flange engaging the edge of the rail base, and relatively soft blocks carried by the bases of the wedges and supporting the rail base.

4. The combination of a cross tie comprising a bottom web and side members extending upward at right angles to the web, the side members being slotted near their upper edges, a rail with its base within the slot, wedges in the slots comprising bases underlying the rail base and flanges engaging the edges of the rail base, and relatively soft blocks intermediate the wedge bases and the rail base.

In testimony of what I claim I have hereunto subscribed my name in the presence of two witnesses

JOS. C. PLATT.

Witnesses:

O. S. CLARK,
J. H. DE VINE.