

J. B. POPE.
 CONCRETE RAILROAD TIE.
 APPLICATION FILED APR. 5, 1909.

928,472.

Patented July 20, 1909.

Fig. 1.

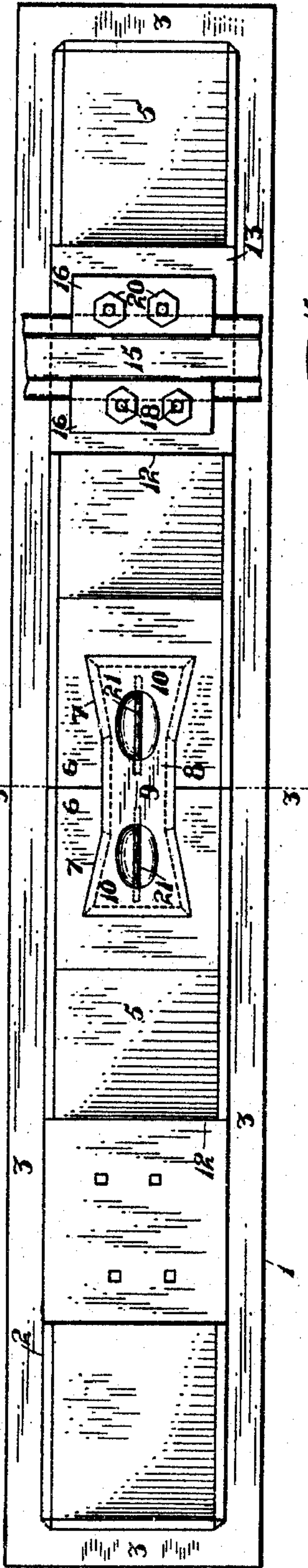


Fig. 2.

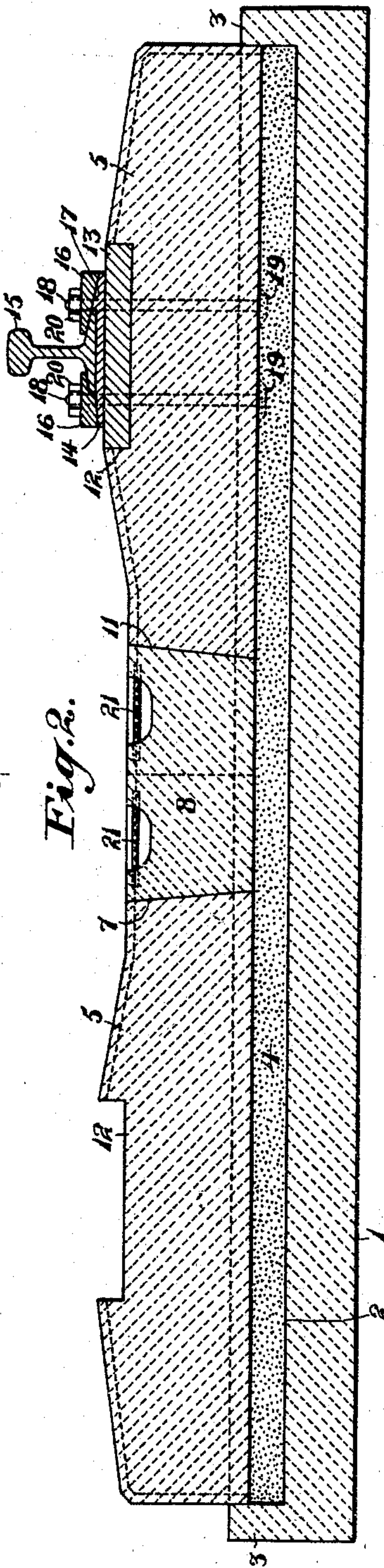
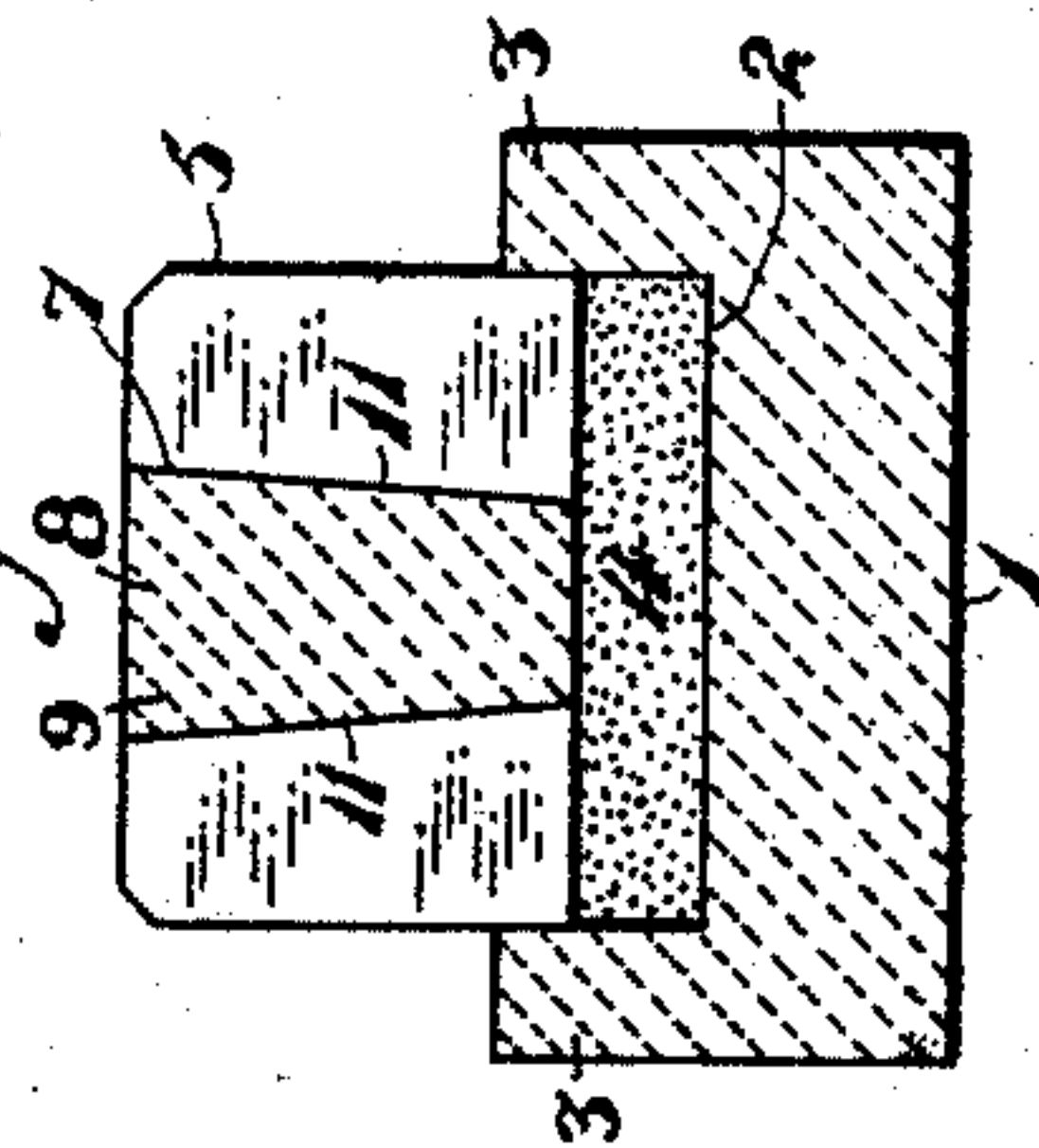


Fig. 3.



Witnesses:-
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UNITED STATES PATENT OFFICE.

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CONCRETE RAILROAD-TIE.

No. 928,472.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES B. POPE, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Concrete Railroad-Ties, of which the following is a specification.

The present invention relates to improvements in concrete railroad ties. One objection to such ties, as heretofore constructed, is that they are not sufficiently yielding to the impacts and jars of the rolling stock, and consequently cause excessive wear of said rolling stock.

The object of the present improvement is to avoid these objections to such ties.

In the accompanying drawing, Figure 1 is a plan view of my improved tie, showing part of a rail secured thereon; Fig. 2 is a longitudinal central section of the same; Fig. 3 is a cross section of the same on the line 3—3 of Fig. 1.

Referring to the drawing, 1 indicates a concrete bed section, formed at the top with a longitudinal recess 2, occupying the whole of the top except narrow strips 3 at the ends and sides. This recess is filled with sand, or other durable loose material, as shown at 4, and, resting on said sand, and fitting within said recess, are two tie sections 5. The sections 5 are identical in form and each occupies one-half of the recess in the bed section. The adjoining ends 6 of the tie sections are formed with registering recesses 7 forming a key way to receive a key 8, which is also formed of concrete, and comprises a central narrow portion 9 and flaring terminal portions 10, the key way corresponding in shape with said key. The sides of the key slope inwardly downward, as shown at 11, enabling the key to be fitted in the key way to hold the two sections firmly together, while permitting the removal of the key when desired, handle bars 21 being provided for that purpose.

Each section 5 is formed with a transverse recess 12 adapted to receive a wooden block 13 forming a cushion. These blocks may differ in thickness on opposite sides of the track, at curves therein, to provide the neces-

sary superelevation on the outer side. Upon each block 13 rests a standard tie plate 14, upon which is laid the rail 15. Clamps 16 rest upon the margins 17 of said tie plate and extend over the flanges of the rail. Bolts 18, having their heads 19 beneath the tie sections, extend through the concrete tie section, block, tie plate, and clamps, and upon the upper ends of said bolts are screwed nuts 20.

The wooden blocks 13 form cushions to yieldingly support the rails upon the tie sections, and the sand or other durable loose material in the concrete bed forms a cushion for the tie sections. Moreover, the tie, being made in sections keyed together, is flexible and yields to the varying pressures upon the two rails. Hence there results greater durability in the tie itself and the prevention of undue wear upon the rolling stock.

I claim:—

1. A concrete tie comprising a lower concrete portion, an upper concrete portion, and a cushion of yielding material between them, substantially as described.

2. A concrete tie comprising a lower concrete portion having a recess, an upper concrete portion sliding vertically in said recess, and a cushion in said recess upon which the upper portions rest, substantially as described.

3. A concrete tie comprising a lower portion, formed with a recess in the whole of the top except narrow marginal strips at the sides and ends, an upper portion fitting snugly in said recess, and a cushion of yielding material in said recess and supporting said upper portion, substantially as described.

4. A concrete tie divided into two sections, one for each rail, said sections having abutting ends formed with co-registering recesses, and a key fitting said recesses, substantially as described.

5. A concrete tie divided into two sections, one for each rail, the joined ends of said sections having registering recesses, and a concrete key fitting said recesses, substantially as described.

6. A concrete tie divided into two sections, one for each rail, the joined ends of said sec-

tions having registering recesses, and a key fitting said recesses, and having downwardly converging walls, substantially as described.

7. A concrete tie divided into two sections,
5 one for each rail, the joined ends of said sections having registering recesses, and a key fitting said recesses, and having enlarged ends, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JAMES B. POPE.

Witnesses:

F. M. WRIGHT,
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