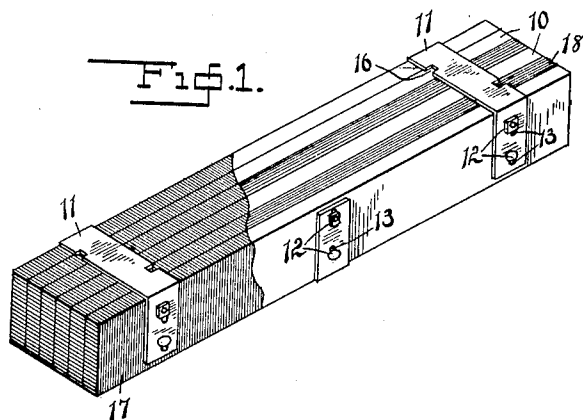
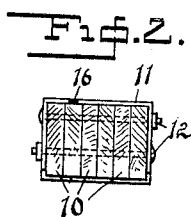
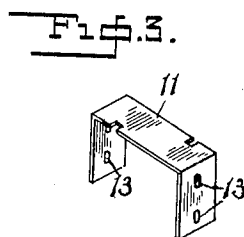
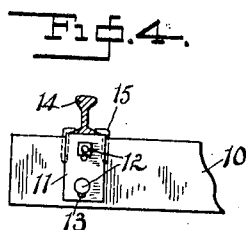


No. 875,856.

PATENTED JAN. 7, 1908.

A. F. SHUMAN.
RAILROAD TIE.
APPLICATION FILED MAY 13, 1907.



WITNESSES:

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Att'y.

UNITED STATES PATENT OFFICE.

ALEXANDER F. SHUMAN, OF CHICAGO, ILLINOIS.

RAILROAD-TIE.

No. 875,856.

Specification of Letters Patent.

Patented Jan. 7, 1908

Application filed May 13, 1907. Serial No. 373,232.

To all whom it may concern:

Be it known that I, ALEXANDER F. SHUMAN, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railroad-Ties, of which the following is a specification.

This invention relates to improvements in railroad ties and the especial objects of the improvements which form the subject matter of this application are: to produce a tie that can be made up of a plurality of short planks or wood strips set edgewise and firmly secured together so as to provide a substantial support for the rails resting thereon; to provide for increasing the durability of such ties by so treating them that both air and moisture will be excluded from contact with the fibers of the wood; to provide against the spreading apart of the several members composing the tie; to provide effective means for securing the rails in position on the ties, and to provide for the maintenance of such securing means under the conditions to which railroad ties are subjected.

Having the foregoing special objects, and others of general utility and economy in view, I have invented the tie shown in the accompanying drawing in a preferred form in the following views:—

Figure 1 is a perspective view of a railroad tie made according to my invention; Fig. 2 is an end view of the tie; Fig. 3 is a detail of the tie-plate which forms an important element of my invention, and Fig. 4 is a fragmentary view showing the application of a rail to my improved tie.

Referring to the details of the drawing, 10 represents planks of suitable dimensions which are placed on edge side by side, and bored transversely to receive the bolts 12. As many of these planks as are necessary to make up a tie of the desired size, will be used.

11 represents tie plates which are preferably formed of sheet metal and bent to provide the horizontal mid-portion and the vertical legs, the former resting on the edges of the plank and the latter embracing the outer planks. In the edges of the horizontal portion of the tie plate, notches 16 are formed in a staggered relation, into which are fitted and driven, the spikes 15 of the usual railroad type. In the vertical portions are formed slightly elongated slots 13, to receive the bolts 12 and to permit the recession of

the plates as the planks become worn from use.

The plates 11 placed near the ends of the ties and over the upper edges of the planks, may be sufficient under many conditions to furnish with their attaching bolts 12 adequate binding means to prevent the planks from spreading, but as a precaution against such spreading especially of their lower edges, I may apply one or more intermediate plates 11 arranging the plates under the plank instead of above it and securing them by bolts 12 passing through suitable holes in the planks.

To effect the exclusion of air and moisture from the fibers of the planks, after boring the latter with the holes to receive the bolts 12, I dip each plank in a bath of hot asphaltum or other substance or solution having the desired qualities, thus allowing the bath solution to enter the bolt holes and thereby preventing any moisture from reaching the interior of the plank by creeping along the bolts from their exposed ends. After each plank is thus treated the requisite number for a tie are assembled loosely on the bolts 12 and in this form are again dipped in the asphaltum and before the latter dries, the nuts are screwed up on the bolts, thus drawing the plank members closely together, and causing some of the asphaltum on the contiguous faces of the planks to be pressed into the pores of the wood, and the surplus after filling any voids caused by unevenness in the faces of the planks will flow over the edges of the latter and completely seal the joints between the planks. After the ties thus constructed are sufficiently dry, the bolts are removed and the plates 11 are applied in the manner described, the bolts being reinserted to secure the plates in position.

In Fig. 1 the heavily shaded portion 17 shows the tie in its complete form, and 18 indicates a single plank after being dipped.

I am aware that ties made up of a plurality of wood strips placed on edge and secured together by bolts are not new, and I do not broadly claim such, but

What I claim as new, is:—

1. A railroad tie consisting of a plurality of planks set edgewise, tie-plates embracing said planks, and bolts passing through said plates and planks, substantially as set forth.

2. A railroad-tie consisting of a plurality of planks set edgewise, slotted tie-plates

embracing said planks, and bolts passing through the slots in said plates, and passing transversely through said planks.

3. A railroad-tie consisting of a plurality
5 of planks set edgewise, slotted tie-plates embracing said planks and having spike receiving notches in their edges, and bolts passing through the slots in said plates and passing transversely through said planks.

10 4. A railroad-tie consisting of a plurality of planks set edgewise, each of said planks having a coating of moisture excluding substance applied individually thereto, and a second coating applied in their assembled
15 relation, and means for clamping said planks together, said means adapted to serve as chairs for the rails.

5. A railroad-tie consisting of a plurality
20 of planks set edgewise, each of said planks being bored transversely to receive bolts and then dipped individually in a moisture ex-

cluding substance, and then dipped in their assembled relation, and means for securing said planks together, said means comprising plates embracing said planks and bolts pass- 25 ing through said plates and planks.

6. A railroad-tie consisting of a plurality of planks set edgewise, each of said planks bored transversely to receive bolts, and said planks coated on all surfaces with a moisture
30 excluding substance, and means for securing said planks together, said means comprising tie-plates embracing the planks and bolts adapted to draw the planks closely together whereby all exposed voids in the tie will be
35 filled with the moisture excluding substance.

In testimony whereof I affix my signature in the presence of two witnesses.

ALEXANDER F. SHUMAN.

Witnesses:

F. BENJAMIN,
WM. B. MOORE.