G. H. HARDMAN.

RAILROAD TIE.

APPLICATION FILED JAN. 22, 1913.

1,110,684. Patented Sept. 15, 1914.

Fig. 1.

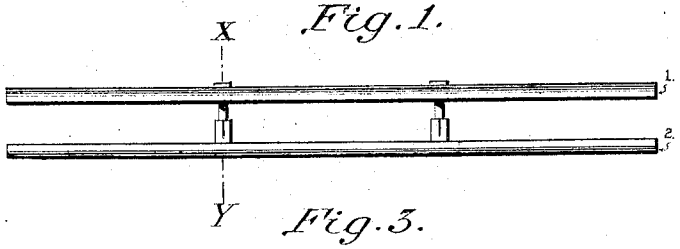


Fig. 2.

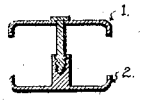


Fig. 3.

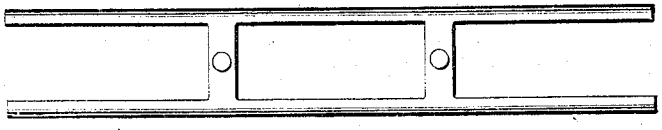
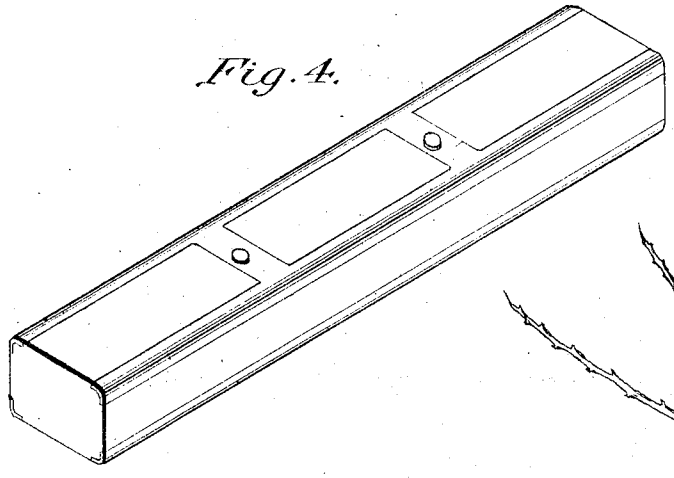


Fig. 4.



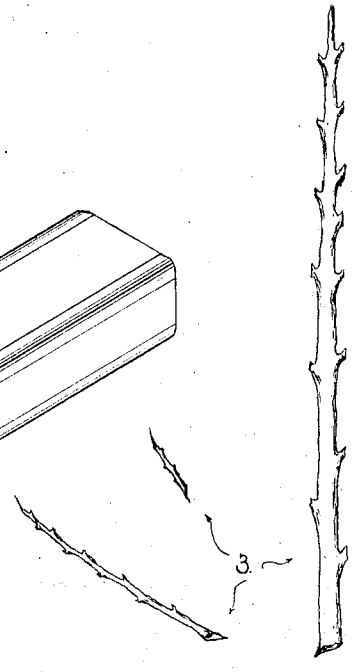


Fig. 5.

WITNESSES:

James A. Barlow

Laura A. Northup

INVENTOR

George H Hardman.

UNITED STATES PATENT OFFICE.

GEORGE H. HARDMAN, OF FALL RIVER, MASSACHUSETTS.

RAILROAD-TIE.

1,110,684. Specification of Letters Patent. Patented Sept. 15, 1914.

Application filed January 22, 1913. Serial No. 743,526.

To all whom it may concern:

Be it known that I, GEORGE H. HARDMAN, of Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Railroad-Ties, of which the following is a specification.

My invention relates to a new method of making railroad ties, and consists of the novel features of construction, hereinafter described in the specification, illustrated in the drawing, and pointed out in the claims.

Reference is to be had to the accompanying sheet of drawings, in which numbers are used to indicate the various parts.

Figure 1 is a side elevation of the frame which I use in my device. Fig. 2 is a section thereof on line X—Y. Fig. 3 is a plan view of the frame. Fig. 4 is a perspective view of the complete tie embodying my invention. Fig. 5 is a view of the branches which I use in making up my tie.

The requirements of a railroad tie are strength, resilience, durability, and ability to hold the rail firmly. I accomplish this result by taking a mold of desired shape, and placing a metal frame, #1, in the mold at the bottom. Then I take small trees, saplings, or branches, #3, cut to desired length, and place them in the mold on the frame #1 until I have sufficient for the purpose. Then I take asphalt, liquefied by either heat or solvent, and put into the mold sufficient to cover the wood when pressed into shape. Then I take frame #2 and place it on the wood and asphalt in the mold. A cover is then placed in the mold, and subjected to sufficient pressure to make the wood and asphalt the required form and density.

Means are provided in the mold to allow the superfluous asphalt to escape so that the result is a uniform production.

It will be noted that frames #1 and #2 are provided with interlocking bolts, so that when they are forced together they are firmly fastened, thereby preventing expansion of the tie. I do not confine myself to this design of either frame or bolt, but may use any that will answer the purpose.

It is obvious that the multiplication of small trees, saplings, or branches, gives great strength; it is also plain that a tie constructed in the manner described will possess the required resilience, and the wood being covered with asphalt, will be very durable. Spikes may be driven into these ties, or means provided when making the tie to hold the rail firmly.

In my use of asphalt, I do not confine myself to the use of pure or commercial asphalt, but may use any of its products, compounds, or blends.

The value of my invention is enhanced by the fact that it will make valuable material now useless, and of which there is an abundant supply.

With my invention, the mold is of the skeleton type the members thereof covering the long edges of the tie protecting them and holding the parts in place, while the top and bottom frames 1 and 2 being of skeleton construction permit the railroad spikes to be driven into the composition.

With the construction of interlocking bolts shown, when the two frames are subjected to pressure in the mold, the bolts do not interfere but will be so fastened so that they will hold the top and bottom frames together against any expansion of the composition.

The trees, saplings or branches with the plastic asphalt under pressure form a homogeneous mass of the reinforced type.

Having thus explained the nature of my invention, and the process of manufacturing the same, what I claim, and desire to secure by Letters Patent, is:—

1. A railroad tie composed of small trees, saplings, or branches, and asphalt, placed in a mold and forced by pressure to desired form and density.

2. A railroad tie, composed of small trees, saplings, or branches, and asphalt, together with an interlocking frame, placed in a mold and forced by pressure into desired form and density.

3. A railroad tie which comprises a body of trees, saplings or branches with asphalt compressed into a homogeneous mass, together with frames at the top and bottom, and bolts which connect said frames.

In testimony whereof I have affixed my signature, in presence of two witnesses.

GEORGE H. HARDMAN.

Witnesses:
WILLIAM C. GRAY,
ETHEL L. SMITH.

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