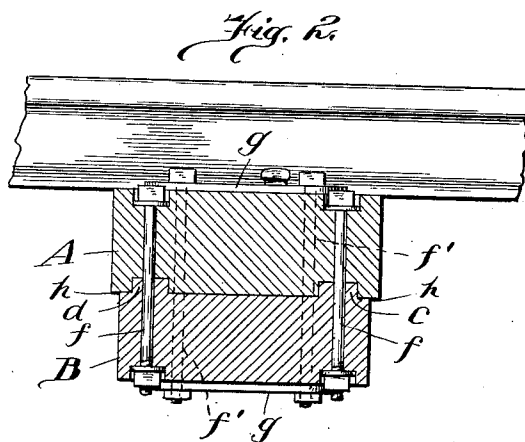
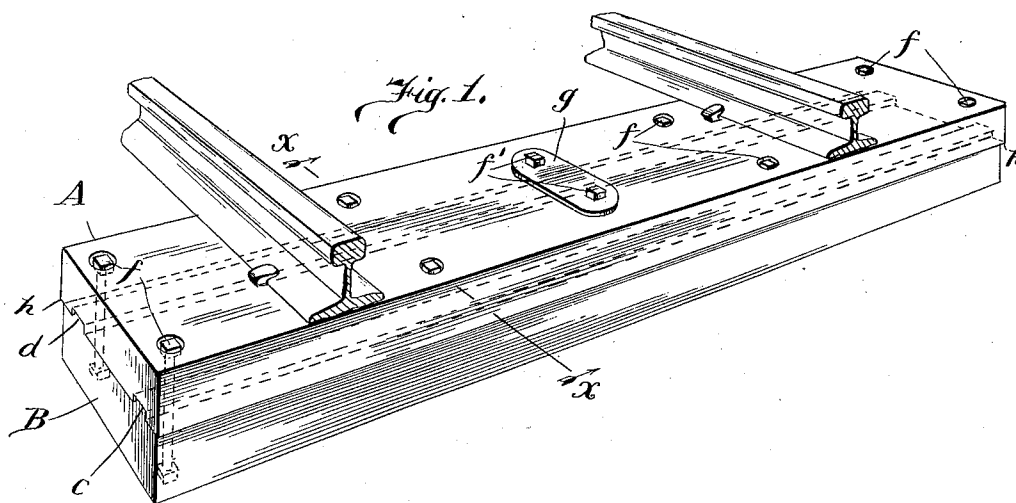


J. B. FINCH.
RAILWAY TIE.
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JAMES B. FINCH, OF SUPERIOR, WISCONSIN.

RAILWAY-TIE.

1,063,524.

Specification of Letters Patent.

Patented June 3, 1913.

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To all whom it may concern:

Be it known that I, JAMES B. FINCH, a citizen of the United States, and resident of Superior, in the county of Douglas and State of Wisconsin, have invented a certain new and useful Improvement in Railway-Ties, of which the following is a description.

My invention relates to a tie for use on railroads and the like, and has for its principal object the production of a tie which will have all the advantages of those at present in use, and which at the same time will be much more lasting and durable without any material increase in the cost thereof.

The purpose of my invention is to produce a new article of manufacture which will combine all the durable qualities of hard wood ties, such as oak and the like, together with the lasting qualities contained in ties made of cedar, cypress and other long-lived softwoods.

A further object of my new article of manufacture is contained in the fact that the same is so made that one portion thereof may be renewed without impairing the value or utility of the other portion, thus materially lessening the cost of the article as a whole and at the same time furnishing a composite tie which will outlast any other wooden tie heretofore employed. It will also clearly be seen that by reason of the method of construction of my improved device, a greater resiliency will be obtained than has heretofore been the case with the usual and ordinary type of wooden tie, which lacks the "giving" qualities inherent in my composite structure, and at the same time I produce an article which will "stand up" under all conditions and circumstances.

By employing my improved device, a great saving is had because of the fact that smaller trees may be utilized in making the ties; less preservative, such as creosote or zinc chlorid, is necessary in the treatment of them, (the portion made of cedar or the like needing no preservative treatment) and because of the material lessening in weight of the composite article, one portion being constructed of hardwood and the other portion of soft wood, a corresponding saving in freight charges is obtained.

In the drawing: Figure 1 is a perspective view showing the composite tie and the method of fastening the parts thereof together. Fig. 2 is a vertical cross section

taken on the line $x-x$ of Fig. 1, looking in the direction of the arrows.

In the exemplification of my invention, I have shown a tie with its upper portion A preferably composed of a hardwood such as oak, beech, chestnut, or the like, while the lower portion B consists of cedar, cypress or any other species of soft wood which has greater lasting qualities in that it resists the action of decay to a greater extent than the harder woods above enumerated.

On the under surface of the upper portion of my composite tie, I form rectangular slots or grooves c , while the upper surface of the lower portion of the tie is provided with tongues d which register with the rectangular grooves throughout the entire length of the tie, as will clearly appear by referring to Fig. 2 of the drawing.

At suitable points in the structure, I provide fastening means, in the form of bolts or rods of suitable metal, and preferably having integral heads, as indicated at f in the drawing, with the usual screw-threaded nuts on the ends of the bolts or rods to hold them firmly in place; while at approximately the central portion of the tie, I prefer to employ a flat metal plate g which is securely clamped in place by means of other bolts or rods f' , shown in dotted lines in Fig. 2; the metal plate g and the rods or bolts f and f' being preferably countersunk in such a manner as to obtain a perfectly free and unobstructed level surface.

While the drawing discloses the bolts or rods f and f' as having plain shanks, yet in actual practice I prefer to employ bolts having shanks screw-threaded substantially throughout their entire length and tapered at the lower or tail portion so as to enable the rods to be screwed into and through the composite tie, thus obtaining better gripping and holding qualities. I also prefer in actual practice to make the upper portion A of the tie a trifle larger than the lower portion B, thus forming a slight overhang, as indicated at h in the drawing, the purpose of this overhang being to prevent moisture from running down the sides of the upper portion A of the tie and into the joint between the portions A and B where it would tend to cause decay.

It is apparent from the construction shown and described that rain or other moisture will run off the upper portion A and

drop directly onto the soil beneath, without coming in contact with the lower portion B.

I have shown and described what I believe to be the simplest form of my invention, but it is apparent that the same may be modified in certain details without departing from the spirit of my invention; for example, the upper and lower members may be provided with but a single tongue and groove connection of any desired size or shape and the bolts or rods entirely dispensed with, or the bolts or rods *f* may be fastened through the composite tie at an angle, the upper lateral edges of the tie being beveled so that the heads of the bolts will not project above the upper surface of the tie. I do not wish, therefore, to be understood as limiting myself to the exact construction shown and described, but

20 What I do claim as my invention, and wish to secure by Letters Patent, is:—

1. As a new article of manufacture, a railway tie comprising an upper portion of hard wood, a groove on the under side of said portion, a lower portion of relatively softer wood, a tongue on the upper surface of said lower portion, and means for securing the portions together. 25

2. As a new article of manufacture, a railway tie comprising an upper portion of hard wood, a groove on the under side of said portion and extending throughout its entire length, a lower portion of relatively softer wood, a tongue on the upper surface of said lower portion and extending throughout its entire length, and means for securing the portions together. 30 35

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