May 17, 1949. G. W. MULLER 2,470,514

ANTISPLITTING MEANS FOR ARTICLES OF TIMBER

Filed Sept. 6, 1946

2 Sheets-Sheet 1

Fig. 1.

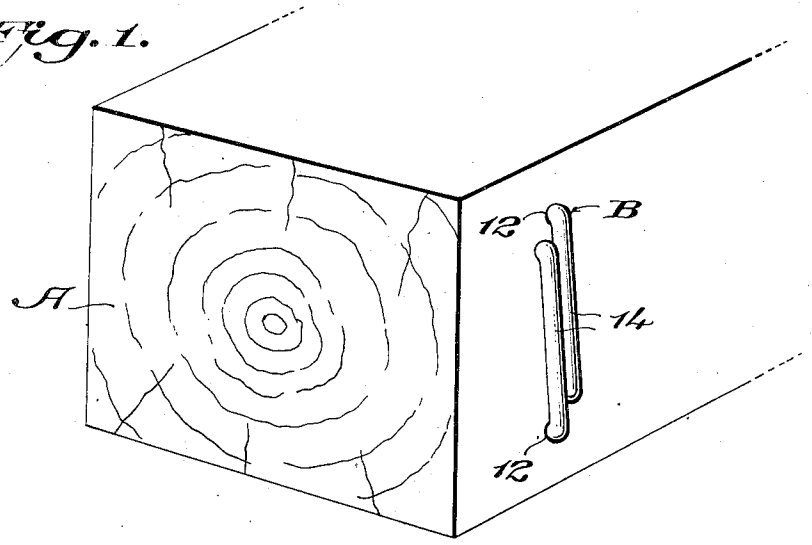
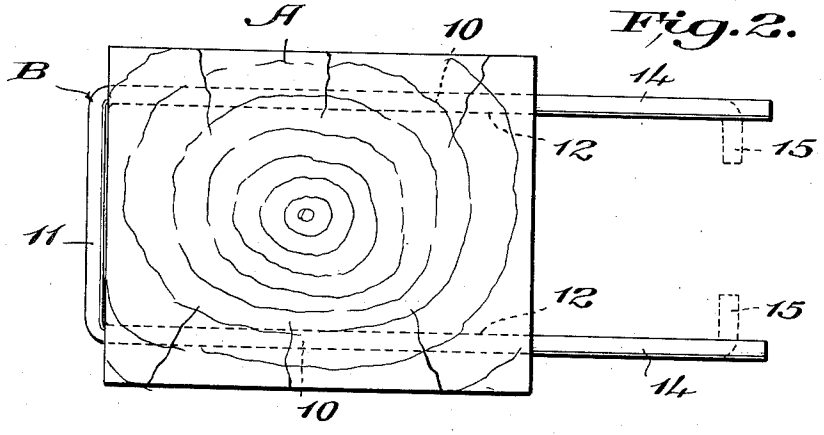


Fig. 2.



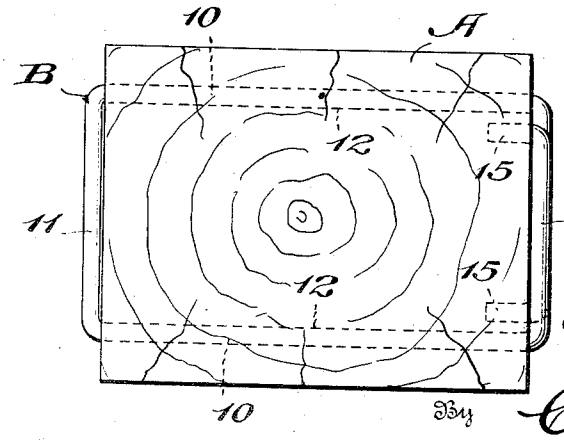


Fig. 3.

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Fig. 4.

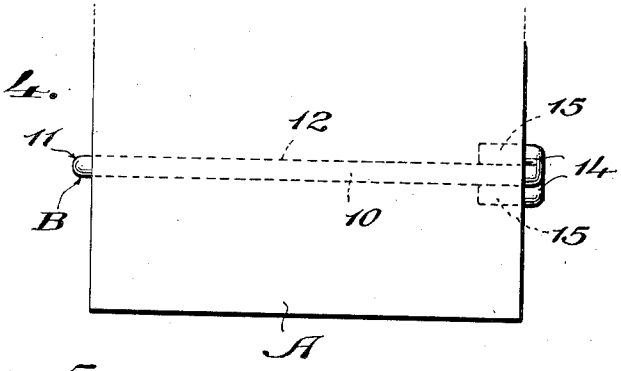


Fig. 5.

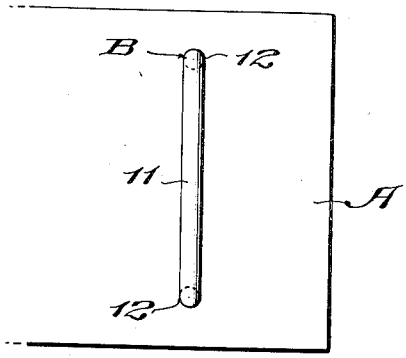


Fig. 6.

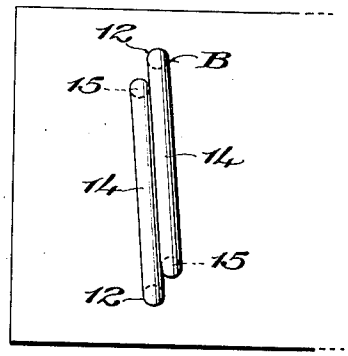


Fig. 7.

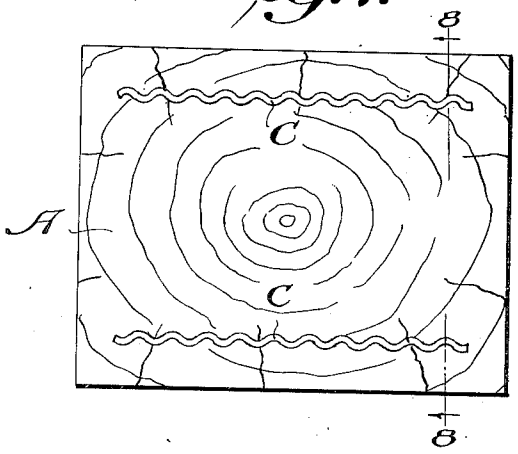
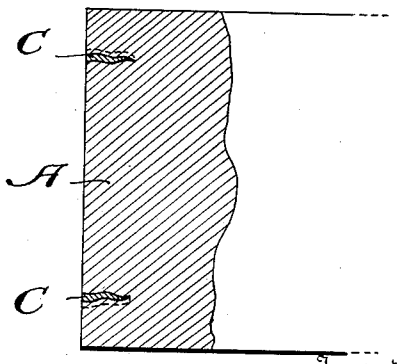


Fig. 8.



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2,470,514

ANTISPLITTING MEANS FOR ARTICLES OF TIMBER

George W. Muller, Miami, Fla.

Application September 6, 1946, Serial No. 695,262

2 Claims. (Cl. 20—0.5)

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This invention relates to articles of timber, such as railway cross ties, bridge and other beams, poles, posts and the like, and has for its object to provide simple, practical means to resist and substantially to prevent checking and splitting of such articles of timber, particularly at their ends, due to their exposure to the elements and to other causes.

With the foregoing general object in view, the invention consists in an article of timber provided with means for the purpose stated and embodying the novel features of combination and arrangement of elements as will be hereinafter more fully described, illustrated in the accompanying drawings and defined in the appended claims.

In the accompanying drawings, wherein like characters of reference denote corresponding parts in the different views:

Fig. 1 is a perspective view of an end portion of an article of timber in the form of a railway cross tie, provided with means in accordance with the invention to resist checking and splitting thereof.

Fig. 2 is an end view of the construction shown in Fig. 1, illustrating the initial steps employed in applying the checking and splitting resisting means.

Fig. 3 is a view similar to Fig. 2 showing the checking and splitting resisting means fully applied.

Fig. 4 is a top plan view of the construction shown in Fig. 1.

Fig. 5 is an elevation of one side of the construction shown in Fig. 1.

Fig. 6 is an elevation of the other side of the construction shown in Fig. 1.

Fig. 7 is a view similar to Fig. 2 illustrating an alternative form of the invention; and

Fig. 8 is a section on the line 8—8 of Fig. 7.

It is well known that, due to seasoning and drying, exposure to the elements and to various other causes, which need not be discussed in detail here, practically all articles of timber tend to check and split, particularly at their ends, with consequent impairment of their strength and acceleration of their deterioration which is reflected in serious dangers to life and property and material losses in many instances.

Following felling of a tree and hewing or sawing of an article of timber therefrom, checking and splitting of the article of timber usually begins at the extreme ends of the latter. It develops gradually inwardly as the wood seasons or dries, and is characterized by separation or

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spreading apart of the fibres or groups of fibres of the article.

In accordance with the present invention, means is provided for application to an article of timber, either while the wood of the article is green or unseasoned, or after it has become seasoned, to bind one or both end portions of the article against splitting longitudinally and spreading transversely in any direction, whereby its life and strength are preserved.

According to Figs. 1 to 6 of the drawings, the means referred to comprises a metal rod B of any suitable cross sectional size and shape bent into U shape and including a pair of preferably longitudinally straight, parallel, or substantially parallel, legs 10, 10 joined together at corresponding ends by a bight or connecting portion 11 which also preferably is longitudinally straight and disposed at right angles to said legs.

Holes 12, 12 of a size snugly to accommodate the arms 10, 10 are bored through the article A of timber to be bound, adjacent to two opposite surfaces thereof, respectively, as, for example, its top and its bottom surfaces, suitable short distances inwardly from its end, and the arms 10, 10 are passed through said holes until the bight portion 11 connecting said arms engages one of two other opposite surfaces of the article, one of its two side surfaces for example. The terminals of the free end portions 14, 14 of the arms 10, 10 then preferably are bent at right angles to said free end portions, as illustrated by dotted lines in Fig. 2, to provide spike elements 15 to be driven into the article A. Next, the free end portions 14, 14 of the arms 10, 10 are bent toward one another into overlapping, side to side relationship against the other of the last mentioned two opposite surfaces of the article, its other side surface for example, and, at the same time, the spike elements 15 are driven into the article. As a consequence, the end portion of the article is bound by the rod B against splitting longitudinally in any plane and against spreading in any direction, with the result that the life and strength of the article are preserved.

The rod B may be applied either while the wood of the article is still green and before any checking, or splitting of the wood has taken place, or after seasoning and splitting of the wood has occured, in which latter event any spread apart end portions of the article may be drawn together before the clamping rod is applied.

According to Figs. 7 and 8 of the drawings, the means referred to comprises a pair of inherently rigid, longitudinally straight, transversely corrugated metallic members C, C of

suitable thickness and width and preferably of wedge shape in cross section. These members C, C are driven into the article A from the end thereof, adjacent to two opposite surfaces thereof, respectively, such, for example, as its top and its bottom surfaces, until they are completely embedded in the article. They may be of lengths to extend to or beyond two other opposite surfaces such, for example, as the side surfaces of the article, or, as shown, to terminate inwardly of the latter surfaces. In any event, due to said members being longitudinally straight, transversely corrugated and inherently rigid, they serve effectively to bind the end portion of the article A from checking and splitting longitudinally in planes extending across said members and, hence, against spreading with the result of preserving the life and strength of the article. As in the case of the rod B, the members C, C may be applied to the article A either while the wood of the article is green and unsplit, or after the wood has become seasoned, in which latter event any spread apart portions of the wood may be drawn together before the members C, C are applied.

While the rods B and the members C may be used in association with practically all types of articles of timber, they are particularly designed and intended for use in association with railway cross ties. In such use, because of their major and most effective holding portions being embedded in the cross ties, they are protected by the ties against chafing and cutting by the ballast of the roadbed, do not interfere with electric signal systems and as a consequence they possess much longer and more efficient life than would be the case if they were exposed to chafing and cutting by the ballast.

It is to be understood, of course, that either or both ends of any particular article of timber may be provided with either form of the present binding means.

To assist in preventing seasonal checking and splitting of the article A, end portions thereof preferably are coated with a suitable pore-sealing, preservative compound.

From the foregoing description considered in connection with the accompanying drawings it is believed that the invention will be clearly understood and its advantages appreciated. It is desired to point out, however, that while only certain specific embodiments of the invention have been illustrated and described, the same is readily capable of specifically different embodiments within its spirit and scope as defined in the appended claims.

I claim:

1. An article of timber having a pair of rods extending therethrough adjacent to an end thereof and adjacent to two opposite surfaces thereof, respectively, and a member connecting and joining together corresponding end portions of said rods together and disposed against one of the two other opposite surfaces of said article, the other end portions of said rods being bent toward one another into overlapping relationship to each other and having their terminals inturned and driven into the article.

2. An article of timber having a pair of holes bored therein and extending therethrough adjacent to an end and adjacent to two opposite surfaces thereof, respectively, a rod of U shape including a pair of legs extending through said holes and a bight portion connecting said legs together and disposed against one of two other opposite surfaces of said article, the free end portions of said legs being bent toward and into overlapping relationship to each other against the other of said last mentioned surfaces and having their terminals inturned and driven into said article, whereby the end portion of the article is held against splitting longitudinally and spreading transversely in any direction.

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