July 11, 1961 N. A. SODERBERG 2,991,857

RAILROAD BRIDGE TIE SPACER

Filed Jan. 23, 1959

FIG. 1.

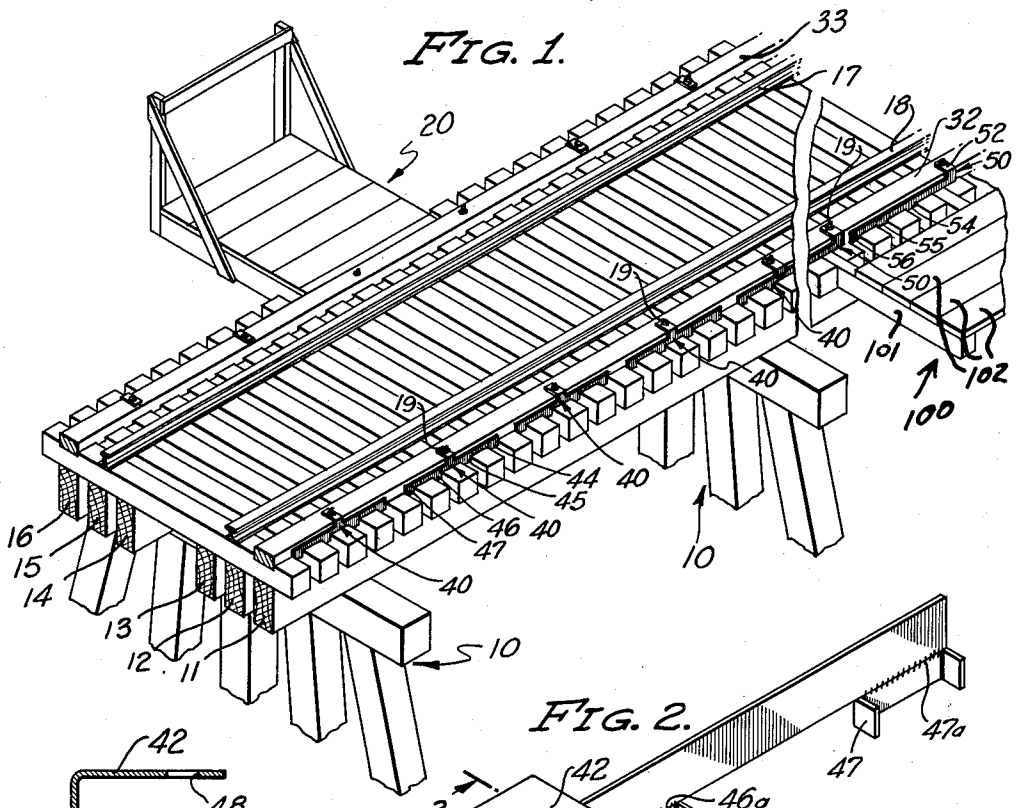


FIG. 2.

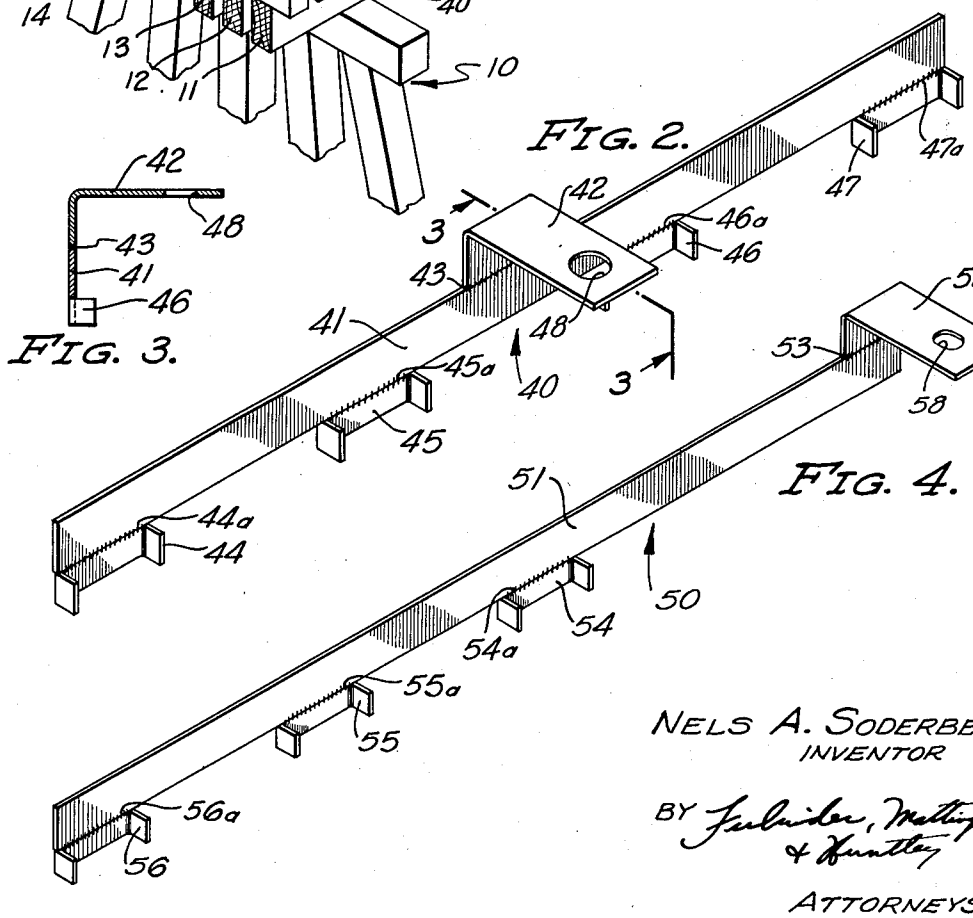


FIG. 3.

FIG. 4.

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RAILROAD BRIDGE TIE SPACER

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This invention relates generally to bridges and more particularly to a spacer for the ties of railroad bridges and the like.

In those instances where railroads utilize trestles for elevated structures, the structure includes stringers, ties, and guard rails. The guard rails rest upon the ties out board of the rails on either side and are bolted to the ties. The guard rails are held in position upon the ties by bolting to certain of the ties at regular intervals and by being spiked to the other ties. The guard rail serves a number of purposes including providing for safety and in preventing shifting of the ties. The guard rails normally consist of timber but may also be made of other materials.

In practice the guard rails are bolted through a rail, a tie and a stringer under the tie at intervals of about every third tie. The intermediate ties are then spaced and spiked into position.

It has been deemed desirable to provide a simplified method of spacing the ties intermediate of the bolted ties and to this end there have been some developments such as special formed metal guard rails and the like. Each of such attempted devices has many inherent disadvantages, chief among which is the difficulty of replacing existing structures with a fixed specially constructed guard rail which is not easily cut and fit upon the location as is the usual wooden guard rail.

Also there are provided upon many trestles a walkway upon which workman can walk off of the tracks and trestle when a vehicle is approaching.

I have sought to provide a simple and economical device for spacing railroad ties relative to the guard rail and to each other. I have accomplished this by the use of steel, or other, spacer bars adapted to be bolted to the fixed or bolted tie position with variations adapted to accommodate for escape platforms and the like.

Thus it is an important object of this invention to provide a means for spacing ties relative to guard rails upon railroad trestles; it is still a further object of this invention to provide a means for spacing ties relative to guard rails and without disturbing the position of escape platforms on railroad trestles; it is still a further object of this invention to provide a means for economically spacing ties on railroad trestles to prevent their shifting.

The foregoing and further objects and advantages of this invention will be apparent from the following specification and the accompanying drawings in which:

FIGURE 1 is a perspective of a section of railroad trestle showing my invention in place thereon;

FIGURE 2 is a perspective of a preferred embodiment of my invention;

FIGURE 3 is a section through the plane 3—3 of FIGURE 2; and

FIGURE 4 is an embodiment of my invention utilized at the walkway.

In FIGURE 1 there is seen a section of railroad trestle. Supporting framework shown generally by numeral **10**, extends downwardly to suitable foundations not shown. Upon the frameworks **10** there are a number of stringers **11**, **12**, **13**, **14**, **15** and **16**. These stringers support a number of customary sized and shaped railroad ties; those shown in the view as indicated in FIGURE 1 are identical in size and shape and in spacing.

An escape platform has been indicated on one side of the above described FIGURE 1 indicated generally by the numeral **20**. The escape platform consists of a

number of protruding beams carrying a suitable wooden floor and sufficient railings so that a man can stand to the side of the rails while a vehicle is passing over the trestle.

A walkway **100** is shown at the broken away portion of FIGURE 1. The walkway is composed of planks **102** supported on beams **101**. Beams **101** are generally placed between ties at intervals of four ties as shown. A walkway may be on a portion of a trestle or upon an entire trestle. The manner of showing it here is not indicative of a representative construction but only for illustrative purposes.

Turning now to FIGURE 4 there is shown the alternate and companion embodiment of my invention **50** consisting of a strap of steel or the like **51**, a tongue **52**, welded at **53** to one edge of strap **51** at one end thereof. The tongue **52** is provided with hole **58** for accommodation of line bolts **19**. Depending from the opposite edge of strap **51** are three U-shaped spacers formed of strap metal or the like **54**, **55** and **56**, each of which is welded at **54***a*, **55***a*, and **56***a* respectively to the lower edge of said strap **51**.

With the description of the spacers now firmly in mind and returning more careful attention to FIGURE 1 it will be observed that each of the spacers **40** is fastened by a line bolt **19** to the guard rail **32**. The individual spacers **44**, **45**, **46** and **47** are seen to separate the ties and hold them in the proper relationship with reference to the tie which is bolted by line bolt **19**. For example, of the ties shown to have numbers in the attached drawing, it will be observed that ties numbered **27**, **28**, **29**, **30** and **31** are respectively spaced apart by the positioning of spacer elements **47**, **46**, **45** and **44** respectively, which spacing elements depend from bar **41** of spacer unit **40**.

On the broken away portion of the trestle the alternate embodiment **50** is fastened by a line bolt **19**, passes over the edge of the guard rail **33**, and extends over the ties as shown. Thus the spacing elements of this alternate embodiment **50** separate ties between the beams **101** of the walkway.

While the embodiments shown and described herein are fully capable of performing the objects and advantages of this invention it will be clear that a number of structural modifications may be made by those skilled in the art without departing from the inventive concept herein disclosed. It is not intended that this invention be limited by the particular embodiments disclosed but only as is required by the appended claims.

I claim:

1. A device of the class described comprising: a first rigid bar; a tongue comprising a second rigid bar welded upon one edge of said first bar at the center thereof, said tongue being bent at right angles a short distance from a point at which it is welded to said first bar and said tongue being provided near one end thereof with a hole suitable to accommodate a bolt; a spacing element comprising a third rigid bar being bent at right angles a distance from each end thereof and welded on the opposite edge of said first bar from which said tongue is welded at one end thereof, a like spacing element welded from the same edge of said bar as the first described spacing element at a distance approximately one-third the length of said first bar from the end thereof; a third spacing element welded upon the same edge of said bar as the previously described two spacing elements at a distance approximately two-thirds the length thereof, from the first of said spacing elements and a fourth spacing element identical to each of the heretofore described spacing elements welded upon the same edge of said first bar as heretofore described and at the opposite ends from which the first spacing element was welded.

2. A device of the class described comprising: a first

rigid bar; a tongue formed of a second rigid bar welded upon one edge of said first rigid bar and at one end thereof, said tongue being bent at right angles to the end of said first bar at a distance therefrom and being provided with a hole near the extremity thereof suitable to engage a bolt, and three spacing elements each comprising a length of rigid bar having each of its ends bent at 90° thereto welded to the edge of said first bar opposite to the edge upon which said tongue was welded and at a distance therefrom, the last of said spacing elements being welded at the end of said bar.

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