P. A. TETERS.

RAILROAD TRESTLE.

APPLICATION FILED MAY 16, 1914.

1,120,564.

Patented Dec. 8, 1914.

2 SHEETS—SHEET 1.

FIG. 1.

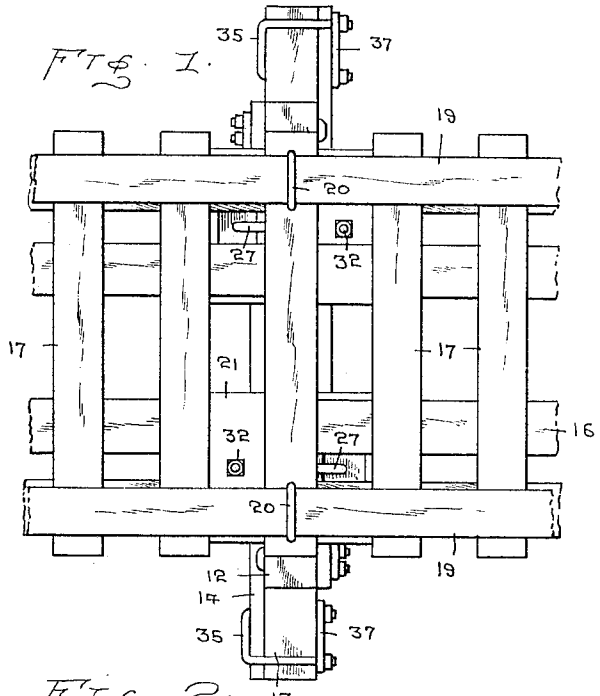


FIG. 2.

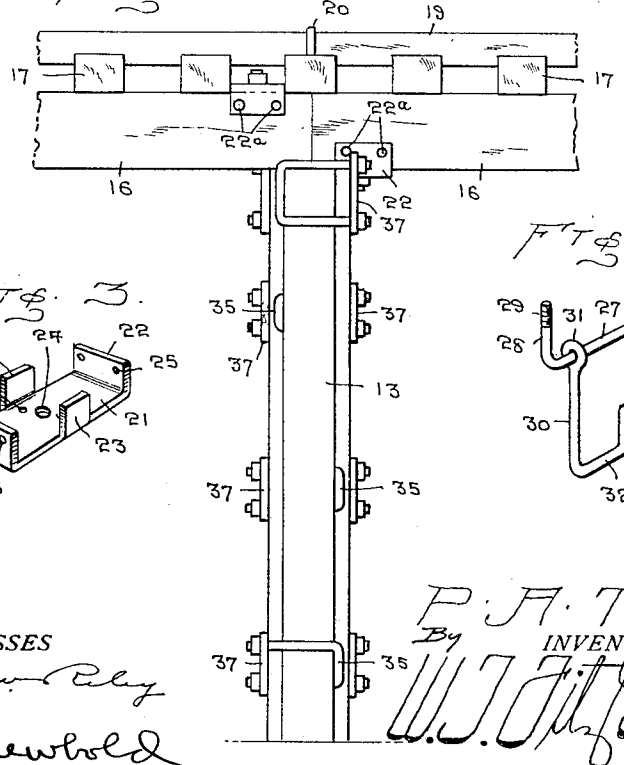


FIG. 3.

FIG. 4.

WITNESSES

Thos. W. Riley

C. W. Newbold

P. A. Teters

By W. J. Fitzgerald & Co.

INVENTOR

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

FIG. 5.

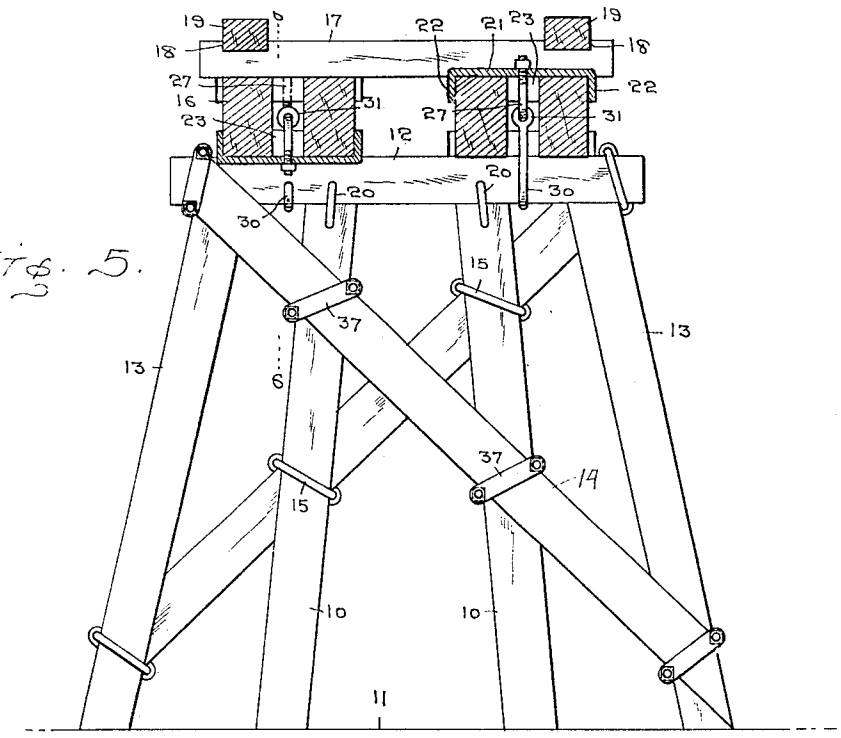
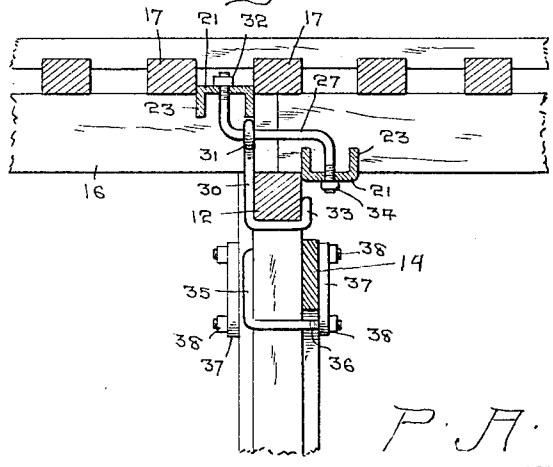


FIG. 6.



P. A. Teters

INVENTOR

WITNESSES

Thos. W. Riley

C. W. Newbold

By W. J. Fitzgerald & Co.

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C

UNITED STATES PATENT OFFICE.

PAUL ALBERT TETERS, OF ROCK ISLAND, TEXAS.

RAILROAD-TRESTLE.

1,120,564. Specification of Letters Patent. Patented Dec. 8, 1914.

Application filed May 16, 1914. Serial No. 839,124.

To all whom it may concern:

Be it known that I, PAUL ALBERT TETERS, a citizen of the United States, residing at Rock Island, in the county of Colorado and State of Texas, have invented certain new and useful Improvements in Railroad-Trestles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates broadly to trestle construction and has particular reference to the truss work and the superstructure supported thereby.

As a principal object, this invention contemplates the provision of a trestle which shall be more practical and substantial than those now in common use and at the same time be easier to build and repair.

An object of equal importance aims to construct a trestle which shall entirely dispense with the necessity hitherto met with in previous forms of trestle construction of using augers or other boring tools upon the material, generally wood of which these trestles are built.

A further object is to provide a novel form of clamps and coacting bolts which shall tie the stringers to the cap pieces in a new and thoroughly practical manner.

A still further object is to provide a trestle which shall be cheaper to construct than forms now in use, shall be capable of withstanding heavy strains and stresses and shall be more durable than any trestle of the present type.

A still further object is to provide a trestle of such simplicity and solidity of construction as shall dispense with the need of providing a dirt or ballasted road bed to be used in connection therewith.

The above and additional objects which will be more clearly brought out in the following specification are accomplished by such means as are illustrated in the accompanying drawings, described in the following specification and then more particularly pointed out in the claims which are appended hereto and form a part of this application.

With reference to the drawings, wherein I have illustrated the preferred embodiment of my invention as it is reduced to practice, and throughout the several views of which like characters of reference designate similar parts, Figure 1, is a top plan view of a portion of my trestle shown resting on one of the truss plates or piling, parts being broken away, Fig. 2, is a side elevational view of the matter shown in Fig. 1. Fig. 3, is a detail perspective of one of my metal casting clamp members, Fig. 4, is a similar view of what I shall call my "S-bolt" and "L-bolt," used in connection therewith, Fig. 5, is a front elevational view of my trestle, parts being shown in sections, and, Fig. 6, is a sectional detail taken on the plan indicated on the line 6—6 of Fig. 5.

Proceeding now to the description of the drawings and referring more particularly to Figs. 1, 2 and 5, it will be seen that the intermediate truss members or piling, by which the superstructure of the trestle is to be supported, consists of the two uprights 10 resting upon a foundation 11 of the ordinary construction and supporting the cap pieces 12. Additional truss members 13, also rest upon the foundation 11, and are upwardly and inwardly inclined to similarly support the cap pieces 12. Sway braces 14, are diagonally positioned upon this piling and are held in place by suitable clamping means 15, which will be hereinafter more fully described. It will be understood of course that a plurality of these truss members are longitudinally alined and are spaced from each other a distance determined by the exigencies of each case according to well known engineering standards.

A plurality of stringers 16, are placed longitudinally upon the cap pieces 12, in the usual manner and are held thereon, by space members which form a most important element of my invention. It will be understood that while I have shown but 4 stringers in place upon the cap pieces that I may equally well use 3 on each side if so desired and may moreover adapt my trestle construction which has been illustrated and will be described as pertaining to a single track road, to a double tracked road without departing from the spirit of my invention.

Transversely placed upon the stringers 16, are the usual cross ties 17 of a railroad each of which may be nailed or spiked to the stringers below and particularly to the outside stringers. Each of these cross ties

17 are formed within a mortise 18 adjacent their extremities in which the upper guard rail stringers 19, are suitably positioned. These guard rail stringers are further secured to the ties by means of the double pointed nails 20 which are U-shaped in a manner similar to an ordinary staple and which are positioned at spaced intervals as clearly shown in the drawings. Similar double pointed nails are also used to secure the uprights and inclined members 10 and 13, on the piling to the cap pieces 12. It may be noted in this connection that in nailing or spiking the ties 17, to the stringers 16 that it may be desirable to drive the nails or spikes through the mortise 18 of each tie as they will then be hidden from sight and not exposed to the action of the weather.

Having thus described the construction of the truss piling and superstructure broadly, it now remains to fully describe the various fastening means by which I am enabled to attain the foregoing objects and chief among which are the metal casting clamp members. These metal castings are shown as a whole most clearly in Fig. 3 and as will be seen upon reference to that figure comprise the body portion 21, having the flanged ends 22 and the side flange 23 formed integrally therewith. The center of the body portion 21 is formed a suitable aperture 24 while each of the flanged ends are provided with the smaller apertures 25 whereby the casting is attached to the stringers. Additional apertures 26 are likewise formed in the base portion 21, to allow the moisture to drain off which might otherwise be collected and held by the casting when positioned upon the trestle. When so positioned, one of these clamping members 21, is placed upon each side of the cap pieces 12, one resting upon the upper portion of the stringers 16 between two adjacent ties 17 and the other against the underface of the trestle and abutting the said cap piece all as clearly shown in Fig. 6. When so placed the flange ends 22 contact with the two outermost faces of the pair of spaced stringers and are secured thereto by means of spikes or lag screws 22^a and the intermediate side flanges 23 are adapted to enter between the stringers of each pair as an effectual spacing and bracing means.

We now come to the combined S-shaped and L-shaped bolts which are used to connect adjacent pairs of clamping members 21 and to coact therewith in producing a solid rigid construction. On referring to Fig. 4, it will be seen that the S-bolt comprises the body portion 27 having the oppositely bent shanks 28 formed thereon, each of these shanks being screw threaded as at 29 for a portion of their length. The L-bolt used in connection with this S-bolt includes a body portion 30 formed on one extremity with the annular portion 31 to grip the shank 27 of the S-bolt and having the other extremity twice bent at right-angles as indicated at 32 and 33 to form a gripping member for the cap pieces 12. Suitable taps 34 are provided to thread upon the extremities 29 of the S-bolt when such extremities have been introduced into and passed through the apertures 24 previously described as being formed in the base plate 21 of the metal casting clamping members. It will be seen that these clamping bolts have a three way action when positioned as shown in Fig. 6. They exert primarily a horizontal compression which serves to hold the stringers 16 in place; secondly the stringers are held in vertical alinement thereby and at the same time by means of the L-bolt are clamped firmly down upon the cap pieces 12.

As regards the clamping means 15 provided to secure the sway braces 14 to the piling of the truss members, it will be seen that they consist of a U-shaped bolt 35 which is threaded upon each extremity as at 36 and is designed to enter suitable apertures in the plate 37 the whole being firmly held by means of the nuts 38.

In recapitulation, it will be noted that the above described trestle construction fuly attains the objects primarily presented and is accordingly possessed of the advantages and desirability pointed out in said objects.

While in the foregoing I have illustrated in the drawings and described in the specification such combination and arrangement of elements as constitute the preferred embodiment of my invention, I desire to emphasize the fact that I may make such minor changes in the matters of proportion and degree, in later adaptations of my device as shall not alter the spirit of my invention as defined in the appended claims.

What I claim is:

1. A trestle construction substituting for auger bored holes and bolts used therein, U-shaped, S-shaped and L-shaped bolts for securely holding the structural members without piercing the same.

2. A trestle construction substituting for auger bored holes and bolts used therein, U-shaped clamping means for certain parts for securing members at angles to each other, and pairs of S-shaped and L-shaped bolts adapted to co-act with each other for securing other structural members as a substitute for the dispensed with construction.

3. A trestle construction substituting for auger bored holes and bolts used therein clamping members and L-shaped and S-shaped bolts used in pairs to co-act with each other to produce a 3-way action of horizontal compression, vertical compression

and the prevention of loss of vertical alinement of other members, all as a substitute for the dispensed with construction.

4. A trestle construction including truss members resting upon a suitable foundation, sway braces reinforcing said truss members, clamping means for securely positioning said sway braces, cap pieces supported by said truss members, stringers carried by said cap pieces, pairs of flanged means for bracing and spacing pairs of said stringers adjacent their intersection with one of said cap pieces, and means coacting with each pair of first said means to clamp said stringers to said cap pieces.

5. In the construction of a trestle, truss members resting upon a suitable foundation, sway braces reinforcing said truss members, clamping means for securely positioning said sway braces, cap pieces supported by said truss members, stringers carried by said cap pieces, oppositely disposed pairs of flanged means for bracing and spacing pairs of said stringers and means coacting with each pair of first said means to clamp said stringers to said cap pieces.

6. A trestle including truss members resting upon a suitable foundation, sway braces reinforcing said members, U-shaped clamping bolts securing said sway braces thereto, cap pieces supported by said truss members stringers carried by said cap pieces, a plurality of pairs of flanged means for bracing and spacing pairs of said stringers and means coacting therewith to clamp said stringers to said cap pieces.

7. A trestle construction including truss members resting upon a suitable foundation, sway braces reinforcing said truss members clamping means for positioning said braces, cap pieces carried by said truss members stringers supported by said cap pieces, groups of flanged means in pairs for bracing and spacing pairs of said stringers and clamping bolts coacting with each pair of said means to secure said stringers to said cap pieces.

8. A trestle construction including truss members resting upon a suitable foundation, sway braces reinforcing said members, means for clamping said braces thereto, cap pieces supported by said truss members, stringers carried by said cap pieces, metal plate castings spacing and bracing pairs of said stringers and means coacting therewith, to clamp said stringers to said cap pieces.

9. A trestle construction including truss members resting upon a suitable foundation, sway braces reinforcing said truss members, means for clamping said sway members thereto, cap pieces supported by said truss members stringers carried by said cap pieces pairs of metal castings for spacing and bracing pairs of said stringers adjacent their intersections with one of said cap pieces and means coacting therewith, to clamp said stringers to said cap pieces.

10. A trestle construction including truss members resting upon a suitable foundation, sway braces angularly reinforcing said truss members, means for clamping said sway braces thereto, cap pieces supported by said truss members, stringers carried by said cap pieces, pairs of metal castings formed with flanges for spacing and bracing pairs of said stringers, S-bolts connecting said pairs of castings and means co-acting with said S-bolts for tying the super-structure upon the cap pieces.

11. A trestle construction including truss members resting upon a suitable foundation, sway braces angularly reinforcing said truss members, means for clamping said sway braces thereto, cap pieces supported by said truss members, stringers carried by said cap pieces, pairs of metal castings formed with flanges for spacing and bracing pairs of said stringers, S-shaped bolts connecting said pairs of castings and L-bolts co-acting with said S-bolts to grip said cap pieces and to tie the super-structure thereto.

12. A trestle construction including truss members resting upon a suitable foundation, sway members reinforcing said truss members, means for clamping said sway braces thereto, cap pieces supported by said truss members, stringers carried by said pieces, pairs of metal castings formed with flanges for spacing and bracing pairs of said stringers adjacent their intersections with one of said cap pieces, S-shaped clamping bolts connecting said castings and L-shaped clamping bolts co-acting therewith to exert simultaneously a horizontal compression between said stringers and vertical compression between pairs of stringers and cap pieces.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PAUL ALBERT TETERS.

Witnesses:

C. B. STEWART,

L. R. FRAZEE.

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