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COMBINED BRACE BAND AND TENSION BAR RETAINER FOR FENCING

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Fig. 1.

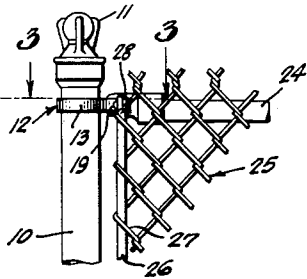


Fig. 3.

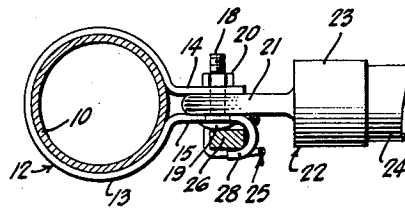


Fig. 2.

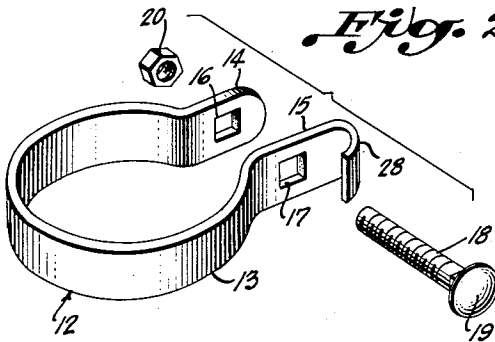


Fig. 5.

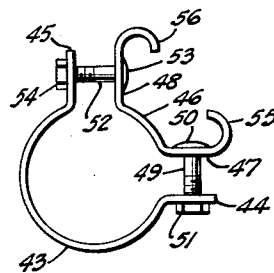


Fig. 6.

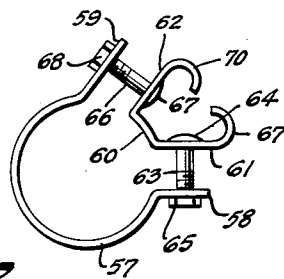


Fig. 4.

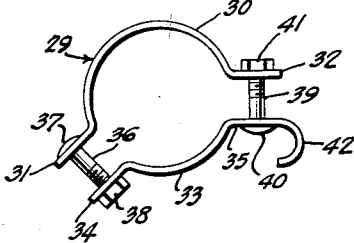


Fig. 7.

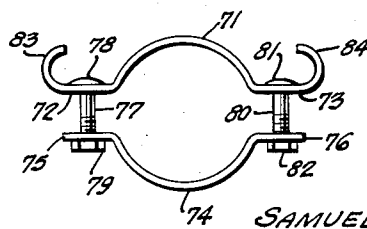
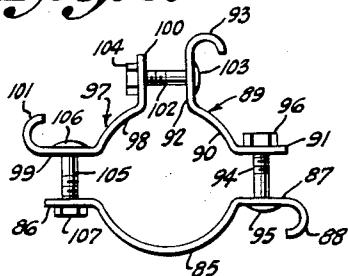


Fig. 8.



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COMBINED BRACE BAND AND TENSION BAR RETAINER FOR FENCING

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This invention relates to fence structure and more particularly to a combined brace band and tension bar retainer to facilitate erection of fencing and to cooperate with the fence structure in maintaining the fence wire in stretched condition.

The device of this invention is primarily intended to be utilized with fence wire of the so-called chain link type, and while this device might well be utilized with other types of fencing, for purposes of illustration only, the same will be described in connection with chain link fencing.

As is well known, chain link fencing is commonly erected by utilizing tubular metallic posts located at suitable intervals and firmly embedded in the ground or set in concrete or other suitable material. A top rail is normally disposed between each pair of fence posts and suitable diagonal braces in the form of tubular metallic members are utilized for the posts where necessary and particularly for the corner and end posts. It has been common practice to secure the top rail as well as the diagonal braces to the fence posts by means of a suitable fitting which is commonly provided with a cup shaped portion for receiving the end of the top rail or brace member and an eye which is secured by means of a clamping bolt or other suitable fastening means to a brace band which surrounds the post and is secured thereto by the clamping bolt or other fastening means.

The chain link wire fabric comprising the fence wire is secured in place by lengths of wire twisted around the strands of the fabric and around the top rail and brace members and as is well known, when installing the fence the fabric must be stretched in order to provide a neat appearing and sturdy fence. For this purpose, a tension bar is threaded through the end links of the wire fabric and suitable stretching means is attached to the tension bar and the fabric stretched to the desired length. The tension bar is then secured to a fence post by means of a tension band surrounding the post and secured to the tension bar by means of a clamping bolt or other suitable fastening means.

It will be seen from the above that it is necessary to utilize brace bands engaging the fence posts for attaching the top rail and brace members thereto and to also utilize tension bands engaging the fence posts as well as the tension bars to maintain the fence in stretched condition.

It is accordingly an object of this invention to provide a combined brace band and tension bar retainer which will serve to secure the top rails and brace members as well as the tension bars to the fence posts thereby eliminating the necessity for utilizing both brace bands and tension bands.

A further object of the invention is the provision of a combined brace band and tension bar retainer for fencing which includes a single band for engaging a fence post together with a clamping bolt for clamping the band on the post and for engaging the eye of a fence brace fitting and means on the band for engaging a tension bar to retain the fence wire in stretched condition.

A still further object of the invention is the provision of a combined brace band and tension bar retainer for fencing in which a band is provided for partially encircling a fence post, this band cooperating with an arcuate strap and clamping bolts for securing the same on the post, the strap being provided with means for engaging

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a tension bar to maintain fence wire in stretched condition.

Another object of the invention is the provision of a combined brace band and tension bar retainer for fencing in which a band is provided for partially encircling a fence post and an arcuate strap together with clamping bolts for securing the band and strap on the fence post, there being means provided on the strap for engaging two tension bars for maintaining fence wire disposed in planes at substantially right angles to each other in stretched condition.

A further object of the invention is the provision of a combined brace band and tension bar retainer for fencing in which there is provided a band for partially encircling a fence post together with a strap for engaging the post and clamping bolts for securing the band and strap on the post there being means provided at opposite ends of the band for engaging tension bars on opposite sides of a fence post to maintain fence wire on opposite sides of the post in stretched condition.

Another object of the invention is the provision of a combined brace band and tension bar retainer for fencing which may be applied to a fence post and which is provided with means for engaging tension bars at opposite sides of the post as well as a third tension bar engaging fencing disposed at substantially right angles to the fencing engaged by the first two tension bars.

Further objects and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a fragmentary elevational view showing a fence post together with a top rail and fencing supported thereby, there being also included a combined brace band and tension bar retainer constructed in accordance with this invention;

FIG. 2 an exploded perspective view showing the combined brace band and tension bar retainer constructed in accordance with this invention;

FIG. 3 a sectional view taken substantially on the line 3—3 of FIG. 1;

FIG. 4 a top plan view of a somewhat modified form of the invention and showing a brace band for engaging a top rail and a diagonal brace for engaging two brace members as well as means for engaging a tension bar.

FIG. 5 a top plan view of a further modified form of the invention in which means is provided for engaging two tension bars disposed at substantially right angles to each other;

FIG. 6 a view similar to FIG. 5 but showing the tension bar engaging means disposed at different angles with respect to each other;

FIG. 7 a top plan view of a still further modified form of the invention and showing means for engaging tension bars disposed at opposite sides of a fence post but in substantially the same plane; and

FIG. 8 a top plan view of another modified form of the invention and showing means for engaging tension bars disposed on opposite sides of a fence post as well as for engaging a third tension bar disposed substantially at right angles to the first two tension bars.

With continued reference to the drawings, there is shown in FIG. 1 a conventional fence post 10 which may well comprise a tubular metal member embedded in the ground in any suitable manner and if desired, a decorative cap 11 may be applied to the upper end of the post 10. A combined brace band and tension bar retainer 12 constructed in accordance with this invention is applied to the fence post 10 adjacent the upper end thereof and as best shown in FIGS. 2 and 3, the combined brace band and tension bar retainer 12 may well comprise a generally U-shaped band 13 for encircling the fence post

10 with each leg of the band 13 extending outwardly to provide spaced substantially parallel ears 14 and 15. Aligned apertures 16 and 17 are provided in the ears 14 and 15, respectively, and these apertures 16 and 17 serve to receive a clamping bolt 18 provided with a head 19 at one end and threadedly receiving a nut 20 at the other. Tightening of the nut 20 on the bolt 18 serves to securely clamp the band 13 on the fence post 10.

As best shown in FIG. 3, the band 13 is clamped on the post 10 with the ears 14 and 15 in spaced parallel relationship and received between the ears 14 and 15 and around the bolt 18 is the eye 21 of a fence brace fitting 22 which may be provided with a cup shaped portion 23 for receiving the end of a top rail 24 or for receiving the end of a diagonal brace member. It will thus be seen that the combined brace band and tension bar retainer 12 serves to secure a top rail 24 or a diagonal brace to the fence post 10.

As best shown in FIGS. 1 and 3, the chain link wire fabric 25 is held in stretched condition by a tension bar 26 extending through the end links 27 of the wire fabric 25 and in order to hold the tension 26 in position, the ear 15 on the band 13 terminates in a hook 28 which as shown in FIGS. 1 and 3, engages the tension bar 26 to hold the same in position and thereby maintain the wire fabric 25 in stretched condition. It is, of course, understood that at least two combined brace band and tension bar retainers 12 will be provided, one at the top and one adjacent the bottom of the post 10 in order to engage the tension bar 26 and hold the same in position.

It will thus be seen that with the above described form of the invention, there is provided a means for securing a top rail or diagonal brace member to a fence post and at the same time engage and maintain in position a tension bar which serves to maintain the fence fabric in stretched condition. Use of the combined brace band and tension bar retainer of this invention serves to eliminate the necessity for utilizing both a member for securing the top rail or diagonal brace member to the fence post and a separate element for engaging the tension bar to retain the same in place.

In the modified form of the invention shown in FIG. 4, there is provided a combined brace and tension bar retainer 29 which may well comprise a band 30 for partially encircling a fence post and the band 30 terminates at each end thereof in ears 31 and 32 disposed at any suitable angles with respect to each other. An arcuate strap 33 is provided for engaging the remainder of the post and the strap 33 terminates at opposite ends in lugs 34 and 35 which are disposed in spaced parallel relationship to the ears 31 and 32 on the band 30. The lug 34 and ear 31 are provided with aligned apertures for receiving a clamping bolt 36 having a head 37 at one end and a nut 38 threadedly received on the opposite end. In a similar manner, the ear 32 and lug 35 are provided with aligned apertures for receiving a clamping bolt 39 having a head 40 on one end and a nut 41 threadedly received on the opposite end. As clearly shown in FIG. 4, the lug 35 terminates in a hook 42 for engaging a tension bar.

In the use of the device shown in FIG. 4, the band 30 and strap 33 are secured to the fence post by means of the clamping bolts 36 and 39 and the eyes of fence brace fittings may be received between the lugs and ears and over the clamping bolts 36 and 39 to secure top rails or brace members to the post and at the same time a tension bar is engaged by the hook 42 to retain the fence wire in stretched condition.

It will thus be seen that the device shown in FIG. 4 serves to eliminate the necessity for providing separate elements for engaging top rails or diagonal brace members and also for engaging a tension bar thereby materially reducing the cost of the fence structure.

With particular reference to FIG. 5, there is shown a further modified form of combined brace band and ten-

sion bar retainer which comprises a band 43 for partially encircling a fence post, this band terminating at each end in ears 44 and 45 disposed at substantially right angles to each other. An arcuate strap 46 is provided for engaging the remainder of the fence post and the strap 46 is provided at each end with lugs 47 and 48. Lug 47 is disposed in spaced parallel relationship to ear 44 and a clamping bolt 49 having a head 50 and a nut 51 extends through aligned apertures in the lug 47 and ear 44. Similarly, the lug 48 is disposed in spaced parallel relationship to the ear 45 and a clamping bolt 52 having a head 53 and a nut 54 extends through aligned apertures in the lug 48 and ear 45. The lug 47 terminates in a tension bar engaging hook 55 and the lug 48 terminates in a tension bar engaging hook 56 disposed at substantially right angles to the hook 55.

In the above described form of the invention, the device is intended to be installed on a fence post for connecting top rails or diagonal braces disposed at substantially right angles to each other to the fence post and also to engage tension bars for maintaining fence wire disposed in substantially right angular planes in stretched condition.

The form of the invention shown in FIG. 6 is very similar to that described above in connection with FIG. 5 and in this form of the invention there is provided a band 57 for partially encircling a fence post, this band terminating at each end in ears 58 and 59. An arcuate strap 60 engages the remainder of the fence post and is provided at each end with lugs 61 and 62. Lug 61 is disposed in spaced parallel relationship to the ear 58 and a clamping bolt 63 provided with a head 64 and a nut 65 extends through aligned apertures in the lug 61 and ear 58. Similarly, the lug 62 is disposed in spaced parallel relationship to the ear 59 and a clamping bolt 66 provided with a head 67 and a nut 68 extends through aligned apertures in the lug 62 and ear 59. The lugs 61 and 62 terminate in tension bar engaging hooks 69 and 70, respectively.

The essential difference between the form of the invention shown in FIG. 6 and that shown in FIG. 5 is the angular relationship between the clamping bolt 63 and 66 and the tension bar engaging hooks 69 and 70 and this form of the invention is intended primarily to be utilized where two sections of a fence are disposed at other than right angles to each other.

In the form of the invention shown in FIG. 7, there is provided a band 71 for partially encircling a fence post and this band terminates at each end in an ear 72 and 73 which ears are disposed in substantially the same vertical plane. A clamping strap 74 is provided for engaging the remainder of the fence post and the strap 74 terminates at each end in lugs 75 and 76. Lug 75 is disposed in spaced parallel relationship to the ear 72 and a clamping bolt 77 having a head 78 and a nut 79 extends through aligned apertures in the ear 72 and lug 75. Similarly the lug 76 is disposed in spaced parallel relationship to the ear 73 and a clamping bolt 80 having a head 81 and a nut 82 extends through aligned apertures in the ear 73 and lug 76. The ear 72 terminates in a tension bar engaging hook 83 and the ear 73 terminates in a tension bar engaging hook 84.

The form of the invention shown in FIG. 7 and described above is primarily intended for use on a fence post disposed in the middle of a fence and serves to connect the top rails or diagonal braces to the fence post and also to engage tension bars connected to each section of the fence.

With particular reference to FIG. 8 there is shown a modified form of the invention which is primarily intended for installation on a fence post with two sections of a fence extending from opposite sides of the post and with a third section extending from the post and disposed at substantially right angles to the first two sections. In this form of the invention there is provided a band 85

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for partially encircling a fence post and this band terminates at each end in ears 86 and 87. The ear 87 terminates in a tension bar engaging hook 88. A clamping strap 89 having an arcuate portion 90 for engaging a portion of the remainder of the fence post is provided at each end with lugs 91 and 92 and the lug 92 terminates in a tension bar engaging hook 93. The lug 91 on the clamping strap 89 is disposed in spaced parallel relationship to the ear 87 and a clamping bolt 94 having a head 95 and a nut 96 extends through aligned apertures in the ear 87 and lug 91.

A second clamping strap 97 is provided with an arcuate post engaging portion 98 for engaging the remainder of the fence post and the strap 97 terminates at each end in lugs 99 and 100. Lug 99 terminates in a tension bar engaging hook 101. Lug 100 is disposed in spaced parallel relationship to lug 92 and a clamping bolt 102 having a head 103 and a nut 104 extends through aligned apertures in the lug 92 and lug 100. Similarly the lug 99 is disposed in spaced parallel relationship to the ear 86 on the band 85 and a clamping bolt 105 having a head 106 and a nut 107 extends through aligned apertures in the lug 99 and ear 86.

It will therefore be seen that the form of the invention shown in FIG. 8 provides a single brace band and tension bar retainer which serves to engage a fence post and connect three top rails or diagonal braces thereto and also to engage three separate tension bands connected to separate sections of a fence terminating at the same fence post.

The various forms of the invention described above serve to materially simplify the installation of a fence of the type under consideration and furthermore, materially reduce the cost of the fittings and parts necessary for such fence, in that separate tension bar engaging bands are eliminated.

It will be obvious to those skilled in the art that various changes may be made in the invention without departing from the spirit and scope thereof, and therefore the invention is not limited by that which is shown in the drawings and described in the specification, but only as indicated in the appended claims.

What is claimed is:

1. A combined brace band and tension bar retainer comprising a circular band for engaging a fence post, said band being provided with substantially flat spaced parallel ears that extend from said band substantially radially with respect to the center of said circular band, means for clamping said band on said post by drawing said ears together, said ears being adapted to receive the

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eye of a horizontally extending fence brace fitting, a hook extending outwardly from one of said ears and away from both of said ears for engaging a vertically extending fence tension bar to maintain fence wire in stretched condition.

2. A combined brace band and tension bar retainer comprising a band for engaging a fence post, said band being provided with substantially flat spaced parallel ears extending substantially radially with respect to the center of said band, means for clamping said band on said post by drawing said ears together, said ears being adapted to receive the eye of a fence brace fitting and means associated with said band and extending outwardly therefrom, said last-named means having a hook portion for engaging a fence tension bar to maintain fence wire in stretched condition, said hook portion extending away from both of said ears.

3. A combined brace band and tension bar retainer comprising a split circular band for encircling a fence post, each end of said band extending outwardly and substantially radially with respect to the center of said band to provide spaced substantially parallel ears, aligned apertures in said ears for receiving a clamping bolt to clamp said band on said post with the eye of a horizontally extending fence brace fitting disposed between said ears and received on said bolt, and one of said ears terminating in a hook that extends outwardly and away from both of said ears for engaging a vertically extending fence tension bar to maintain fence wire in stretched condition.

4. A combined brace band and tension bar retainer comprising a split circular band for encircling a fence post, each end of said band extending outwardly and substantially radially with respect to the center of said band to provide spaced substantially parallel ears, aligned apertures in said ears for receiving a clamping bolt to clamp said band on said post with the eye of a fence brace fitting disposed between said ears and received on said bolt, and means extending outwardly and away from both of said ears comprising a hook portion for engaging a fence tension bar to maintain fence wire in stretched condition.

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