

No. 607,431.

Patented July 19, 1898.

F. W. GASPER.

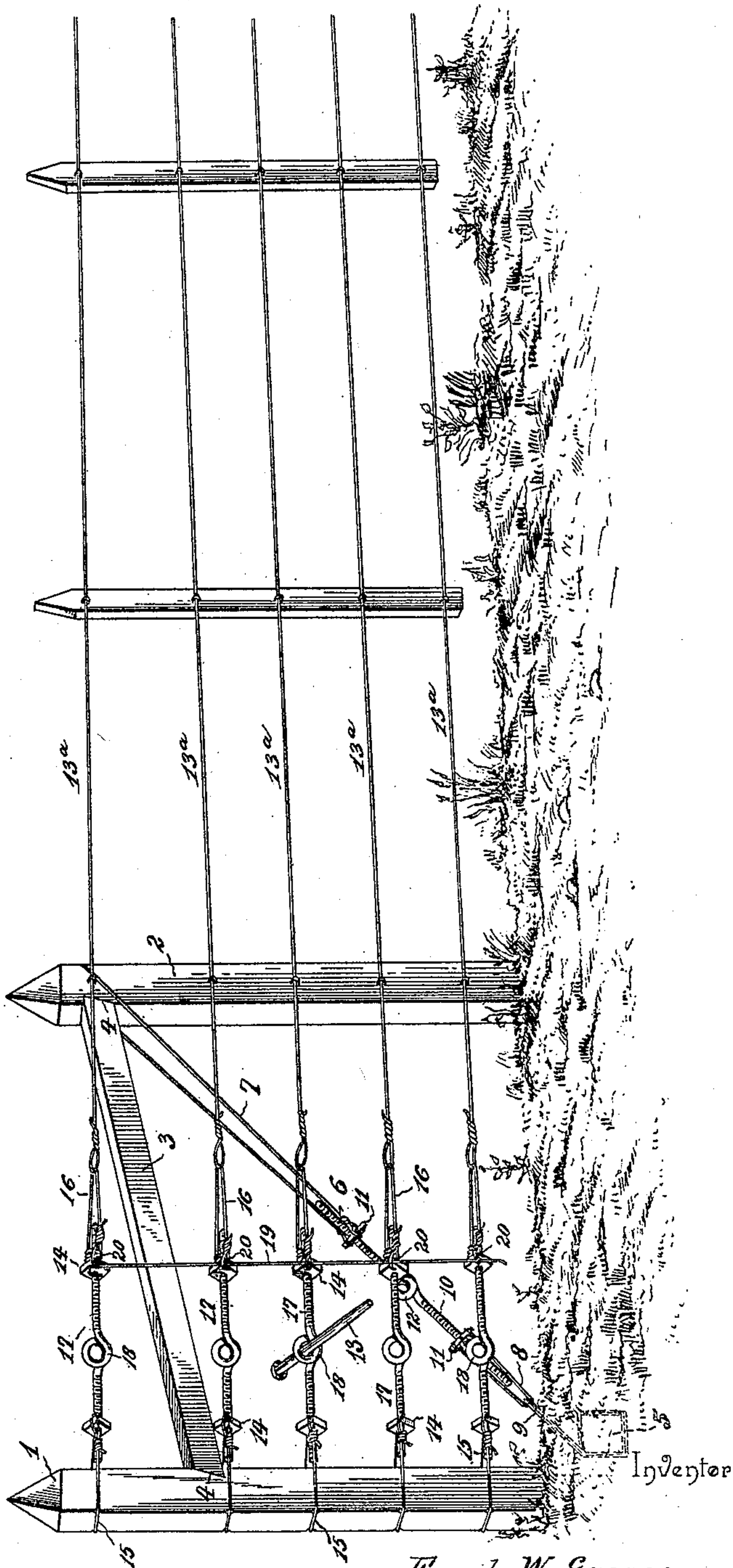
FENCE.

(Application filed Nov. 30, 1897.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.



Witnesses

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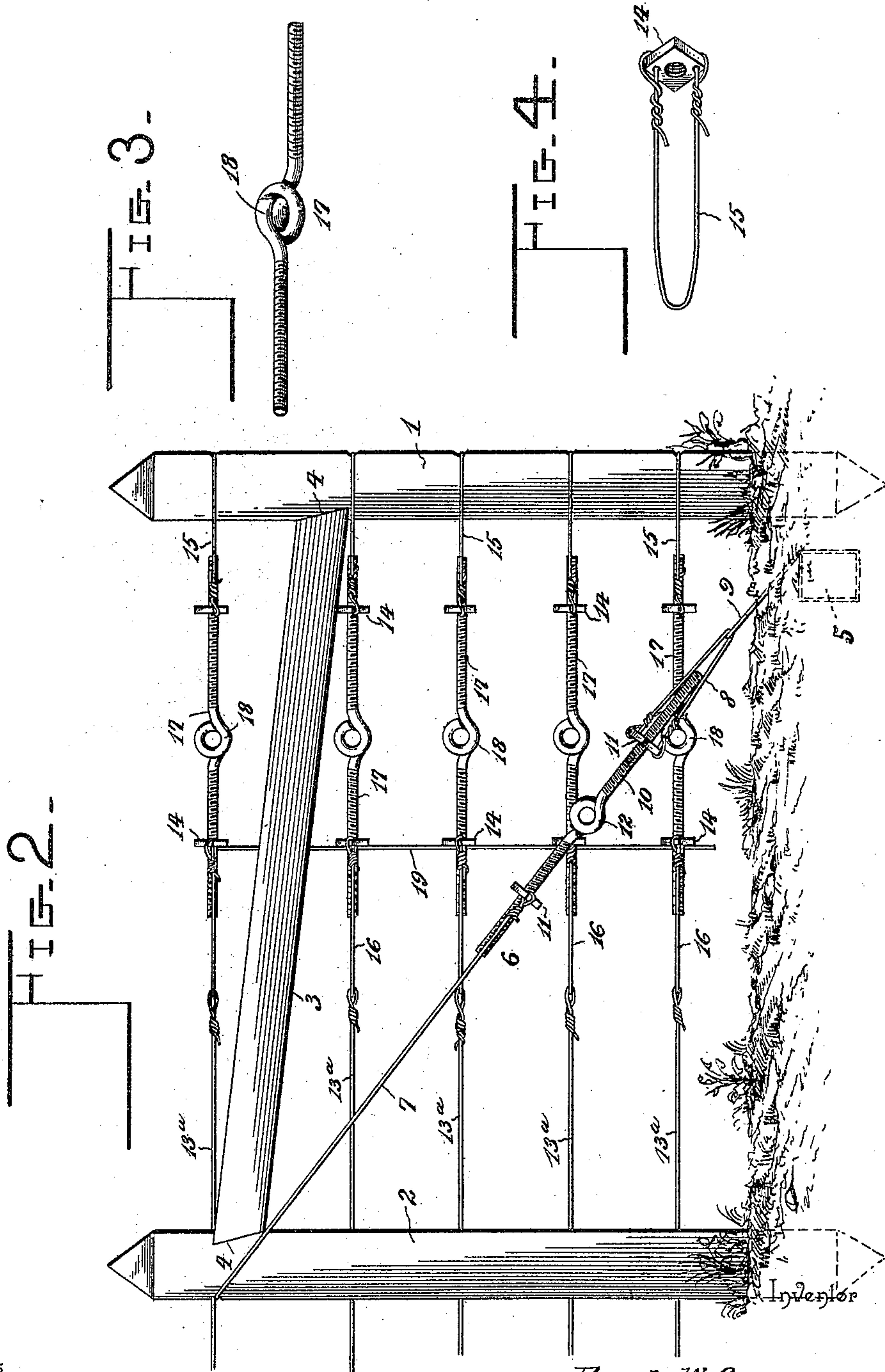
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2 Sheets—Sheet 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

FRANK W. GASPER, OF WAYNE, NEW YORK.

## FENCE.

SPECIFICATION forming part of Letters Patent No. 607,431, dated July 19, 1898.

Application filed November 30, 1897. Serial No. 660,223. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK W. GASPER, a citizen of the United States, residing at Wayne, in the county of Schuyler and State of New York, have invented a new and useful Fence, of which the following is a specification.

My invention relates to fences of that class wherein the runners are of wire connected by suitable stays or pickets and supported by suitable posts or uprights; and the object in view is to provide simple and efficient means for bracing the terminal post or posts to prevent the drawing thereof or the canting of the same in the direction of strain of the runners, and, furthermore, to provide a simple and efficient tension device for each runner, whereby the strain may be increased or diminished to suit variations due to changes of temperature.

Further objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a fence embodying a construction in accordance with my invention. Fig. 2 is a detail side view of a terminal panel, showing the post-bracing and tension devices. Fig. 3 is a detail view of one of the tension-bolts. Fig. 4 is a detail view of one of the nut-holding stirrups.

Similar numerals of reference indicate corresponding parts in the several figures of the drawings.

In the improved fence the main posts or uprights are arranged at a suitable distance to provide panels of the desired lengths, but as my invention relates particularly to the terminal posts it will be sufficient in the drawings to show a main terminal post 1 and a contiguous auxiliary or bracing post 2, spaced from the main post and held at the desired interval by a thrust-brace 3, interposed between the same contiguous to their upper extremities at an upward inclination from the main toward the auxiliary post. This brace is of greater length than the interval between the contiguous surfaces of the connected posts, and its extremities are beveled in parallel directions and fitted in seats 4. Also extending from the upper end of the auxiliary or bracing post downwardly to a point be-

tween the lower ends of the posts and attached to a suitable anchor 5 is a tension-brace 6, embodying a stirrup 7, of looped construction, which is seated in a kerf in the outer side of the auxiliary post; a stirrup 8, connected with said anchor by means of a staple 9 or its equivalent, and a tension-bolt 10, having aligned right and left threaded arms which are respectively engaged with nuts 11, secured to the arms, respectively, of the said stirrups. Said tension-bolt is preferably provided at an intermediate point between its oppositely-threaded arms with an integral coil 12, forming an eye adapted to be engaged by an operating rod or lever 13, which is shown in Fig. 1, such engagement being accomplished manually when it is desired to vary the adjustment of the bolts to increase or diminish the backward tensile strain upon the auxiliary post. In the construction illustrated the sides of the loops forming the stirrups are engaged with suitable perforations in the nuts at opposite sides of the threaded openings thereof, and it will be obvious that by reason of the separation of said sides or arms of the stirrups not only will the strain of the bolt be distributed and thus applied directly and efficiently to the bracing-post, but said nuts will be held from rotation during the manipulation of the bolts.

The tension devices which I have shown in connection with the runners 13<sup>a</sup> of the fence are constructed substantially in accordance with the above description in that the spaced nuts 14 are connected, respectively, with the contiguous extremity of a runner and with the main terminal post 1 by means of stirrups 16 and 15, the arms of each stirrup being separate throughout and terminally attached to the connected nut at points upon opposite sides of the threaded opening thereof, said nuts being engaged by the oppositely-threaded arms of a tension-bolt 17, having a central integral eye 18, consisting of a coil, into which an operating rod or lever 13 may be inserted to vary the tension of the runners. This operating rod or lever is shown in Fig. 1 engaged with the eye of one of the runner tension-bolts, the same being headed to provide for leaving the rod permanently upon the fence for convenient application when required.

Inasmuch as there is a liability of commu-

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nicating rotary motion to those nuts which are connected with the runners by the manipulation of the tension-bolts, I preferably employ a locking-rod 19, engaging a series of eyes 20, formed at the points of connection of the arms or sides of the contiguous stirrups with the nuts, as clearly shown in Fig. 1.

From the above description it will be seen that by the use of the tension devices, consisting of relatively-adjusted nuts connected by a tension-bolt having oppositely-threaded arms or members, the strain applied to a runner is directly in alinement therewith, thus avoiding all bending and kinking thereof. Obviously the bending of a runner becomes a matter of importance when, by reason of changes of temperature, the tension of the runner must be varied repeatedly. By providing tension-bolts having arms of a sufficient length to compensate for any possible required adjustment the tension may be varied as often as found expedient without in any way impairing the strength or efficiency of the fence members.

So far as the bracing devices for the main post are concerned it will be seen that by the downward inclination of the thrust-brace toward the main post, to which the strain of the runners is applied, any tendency of the main post to yield toward the auxiliary or bracing post will be converted into an upwardly-inclined pressure upon said auxiliary post, and as this tendency is resisted by a downwardly-inclined tension-brace, of which the tension is variable by the adjusting devices provided for that purpose, the main post is maintained firmly in its operative position and can yield only laterally, or in a direction in which strain is not applied by the runners.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Among the advantages of the construction hereinbefore described may be mentioned the fact that the tension device can be located at an intermediate point, as well as at one extremity of a series of runners; and that in building the fence no machine is required for taking up slack in the runners, thus enabling the fence to be constructed at a comparatively small cost. Furthermore, the provision of the tension-bolts with eyes avoids the necessity of using special tools in changing the tension of the runners. Furthermore, it will be seen that the stays are secured to the runners by means of staples, of which those engaging the marginal or upper and lower runners are tightened to clamp said runners, while those which engage the intermediate runners are allowed to remain sufficiently loose to permit the runners to be moved therethrough. Hence when it is desired to remove the fence the only operation necessary is to loosen the staples which engage the upper and lower runners and then reel

the runner-wires at one end of the fence. This simplifies the removal of the structure and has the effect of producing a portable fence adapted to be erected subsequently, no portion of the structure being injured by disconnecting the parts thereof.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a fence, the combination of spaced main and auxiliary terminal posts, a thrust-brace interposed between the posts contiguous to their upper ends, and a tension-brace extending from the upper end of the auxiliary post to an anchor between the posts, and including spaced relatively-adjustable nuts, stirrups connecting said nuts respectively with the post and the anchor, and a tension-bolt having oppositely-threaded arms engaged with the nuts and provided with an integral intermediate coil forming an eye for engagement by an operating rod or lever, substantially as described.

2. In a fence, the combination with spaced main and auxiliary terminal posts, a thrust-brace interposed between said posts near their upper ends, and a tension-brace extending from the upper end of an auxiliary post to an anchor located near the bottom of the main post, and embodying looped stirrups, respectively connected with the post and anchor, nuts attached to the separated arms or sides of the stirrups and held thereby from rotation, and a tension-bolt having an intermediate wrench-seat, consisting of a coiled eye, and oppositely-threaded arms engaged with the nuts, substantially as specified.

3. In a fence, the combination of a terminal post, runners, and adjustable connections between the runners and said post, each connection embodying a looped post-stirrup extending around the post with its sides or arms separated, a looped runner-stirrup attached to the adjacent end of the runner, nuts attached to the sides or arms of said stirrups, whereby that nut which is attached to the post-stirrup is held from rotation, and a tension-bolt having oppositely-threaded arms engaging the nuts and provided at an intermediate point with a wrench-seat, substantially as specified.

4. In a fence, the combination with a post and runners, of tension devices each having spaced nuts respectively connected with the post and a runner, those nuts which are connected with the runners having eyes, tension-bolts engaging and connecting the nuts, and a locking-rod threaded in the alined eyes of those nuts which are connected with the runners, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANK W. GASPER.

Witnesses:

JOHN H. SIGGERS,

FRANCES PEYTON SMITH.