

(No Model.)

B. F. OSBORN.
TRUSS RAIL FENCE.

No. 470,442.

Patented Mar. 8, 1892.

FIG. 1.

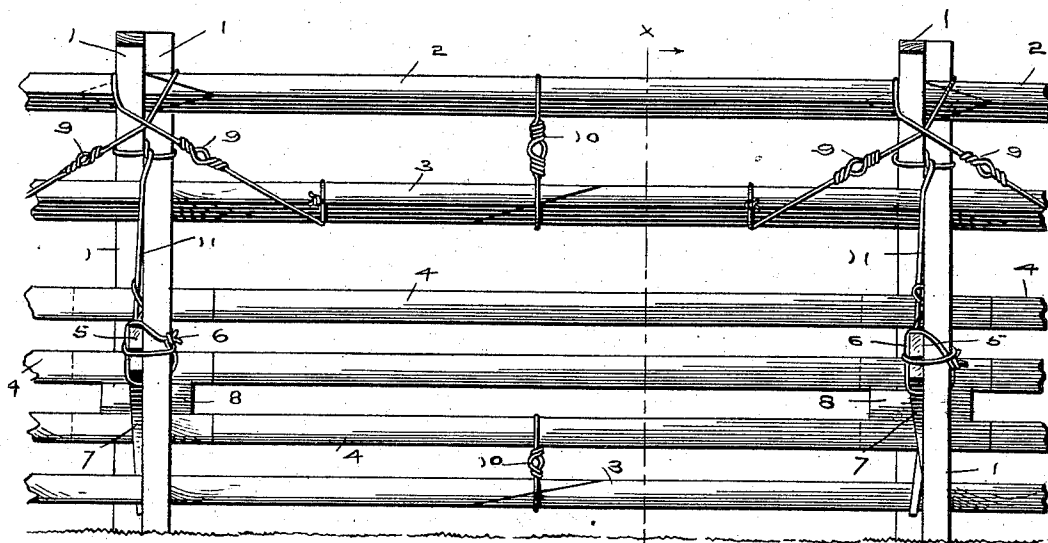
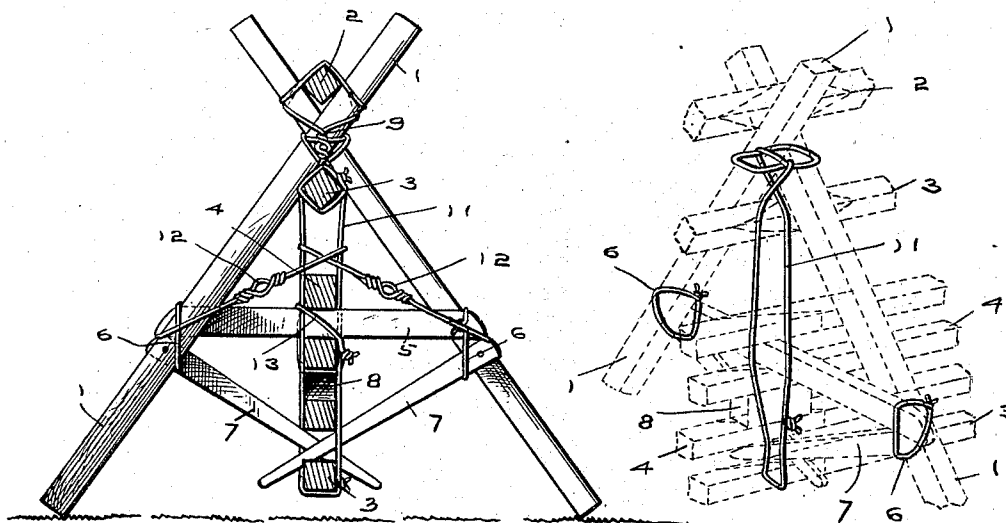


FIG. 2.

FIG. 3.



Witnesses

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TRUSS RAIL FENCE.

SPECIFICATION forming part of Letters Patent No. 470,442, dated March 8, 1892.

Application filed December 4, 1891. Serial No. 414,052. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. OSBORN, residing near Nora, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Truss Rail Fences; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures refer to like parts.

My invention relates to the construction of fences made of ordinary rails, supported by crossed stakes, and further braced by means of diagonal wires and secured by metal ties, and will be understood from the following description.

In the drawings, Figure 1 is an elevation of a panel of my improved fence. Fig. 2 is a sectional view on the line *x x*, Fig. 1. Fig. 3 is a detail perspective view of the wire tie which secures the rails and the upright stakes together, the rails and stakes being shown in dotted lines.

My object is to economize in the use of material and to avail myself of such old rails as the farmer may happen to have on hand, and I will now proceed to describe in detail the construction of my fence.

As shown in the drawings, the panel is six rails high, braced on either side against lateral movement by the stakes 1 crossing each other near the top, their lower ends resting upon the ground in the usual manner. Within the crotch formed by the crossing of the stakes rests the rider-rail 2, which is spliced in the center of the crotch. Below this is a rail 3, which is spliced in the middle of the panel, and a wire tie 10 is twisted securely about the splice, and also about the rider-rail, and thus the spliced ends of the rail 3 below are not only firmly held together, but they are supported by the wire loop or tie 10 directly from the solid rail above. Below the spliced rail 3 are three other rails 4, whose ends are lapped or spliced in line with the center of the crotch and with the splice of the rider-rail, and below these the bottom rail 3 is lapped or spliced in the center and its spliced ends are secured by the wire tie 10, which is twisted about the center of the solid rail above in the manner before described. It will thus be seen that the two upper rails and the two lower rails of

the fence correspond with each other in regard to alternating splices and the securing of the pairs together, while the two central rails are not so tied together. The central part of the fence, however, comprising the three intermediate rails immediately above the bottom rail, all of which are spliced only at the ends in line with the crotch, is carried in the stirrup-wire 11, which is shaped in the manner shown in Fig. 3, its upper ends forming open loops through which the ends of the crossed stakes 1 pass. The wire being twisted about their ends, is then twisted over itself and extended downward, forming a loop or stirrup, through which are passed the ends of the four bottom rails, and they are practically carried in this stirrup and thus prevented from sagging downward, this wire stirrup being first tightened by twisting its ends together, and afterward by other means, as hereinafter described. For further strengthening the fence a truss is formed, preferably of wood, composed of three members, a horizontal bar 5, which passes between the third and fourth rails from the bottom and supporting the fourth rail, as shown in Fig. 2, the two other members of the truss being the diagonal braces 7, which are notched near their lower ends and locked upon the opposite angular corners of the bottom rail 3, these braces being pivoted or bolted to the sides of the stakes 1, as shown in Fig. 2. The ends of the horizontal bar 5 and the upper ends of the diagonal locking-braces 7 are further secured together by metal ties 6, which are tightly twisted about them, as shown. Thus we have the combined strength of this truss and of the stirrup-wire for carrying the weight of the central and lower part of the fence absolutely supporting it and preventing it from sagging or falling downward, and in order to further secure the fence and to strengthen the truss diagonal brace-wires 12 are passed about the wires of the stirrup 11 above the four bottom rails and then between the ends of the horizontal bar 5 and the diagonal braces 7 of the truss, and these are tightened by twisting the ends together and further twisting the wires at the centers by any suitable means. These act, therefore, as tighteners, binding the stirrup-wires together and against the sides of the rails, increasing their tension, and preventing any possible

lateral movement of the lower part of the fence. The upper one of the rails 3, which is spliced in the center, is not only secured firmly about its splice by the tie 10 to the center of the rider-rail 2, but diagonal wire braces 9, passing over the upper and free ends of the stakes, are also connected to this rail 3 between its center and the crotch, and these, when drawn up as tightly as can be twisted, are further tightened by making a twist in the center, and so hold the upper rail 3 laterally on each side, and further strengthen and secure the upper part of the fence and prevent any endwise movement, these diagonal braces 9 being connected on each side of the cross-stakes of each panel throughout the entire line of fence. Distance-blocks 8 are used between the second and third rails from the bottom, in order to space them properly apart.

The fence thus constructed enables the farmer to use old rails, and as some of them are lapped at the crotch and others in the center of the panel it will be observed that the spliced joints of the upper and lower rails of the fence are always broken and are never directly one above the other. The fence, therefore, is strengthened against being blown over by the wind by means of the crossed stakes 1, and these are held firmly together and to the end of the panel by the wire stirrup 11, which encircles them near the top. They are further secured to the fence by the diagonal tie-braces 9, so that any longitudinal movement of the braces or of the fence-panel is absolutely prevented, while the truss which carries the weight of the fence below, constructed and locked together in the manner shown, makes the lower part of the fence absolutely strong and prevents it from being broken down by animals or blown over by the wind or sagging either laterally or in a longitudinal direction.

I do not broadly claim the construction of a fence wherein fence-rails are used and tied together with wire, for various kinds have been heretofore built; but I am not aware that any fence constructed, braced, and se-

cured against endwise or lateral movement and held together by brace and tie wires and spliced in the manner herein described has ever been known or used.

What I claim as my invention, and desire to secure by Letters Patent, is the following:

1. A fence composed of rails and cross-stakes, a part of the rails spliced in line with the crotch, the others spliced in the middle of the panel, the former secured together and to the stakes in the crotch by wires, the latter secured to the solid part of the rail above by means of suitable tie-wires, the weight of the fence carried in a stirrup composed of wire, which closely unites the crossed stakes above and sustains the weight of the lower part of the fence beneath, in combination with a locking-truss secured to the stakes and locked on the upper corners of the bottom rail, whereby the whole is secured and braced against endwise or lateral movement, substantially as shown and described.

2. In a fence, the stakes 1, crossing each other near the top, their lower ends resting upon the ground, riders 2, spliced in the crotch, the stirrup-wire 11, secured about the upper ends of the stakes, as shown, rails 3, spliced in the middle and secured by ties 10 to the solid rails above, diagonal side braces 9, connecting the stakes to one or more of the rails of the panel on either side below for preventing any endwise movement of the line of the fence, a truss composed of the horizontal bar 5 and diagonal braces 7, the latter secured to the sides of the stakes and having notches which lock upon the angular edges of the lower rail 3, the tightener-braces 12, inclosing the stirrup for clamping it against the rails, the ends of the truss further secured by ties 6, all combined substantially as shown and described.

In witness whereof I have hereunto set my hand this 14th day of November, 1891.

BENJAMIN F. OSBORN.

Witnesses:

E. B. GRIFFITH,
C. P. JACOBS.