

(No Model.)

G. M. & H. R. LAMB.
FENCE.

No. 496,087.

Patented Apr. 25, 1893.

Fig. 1.

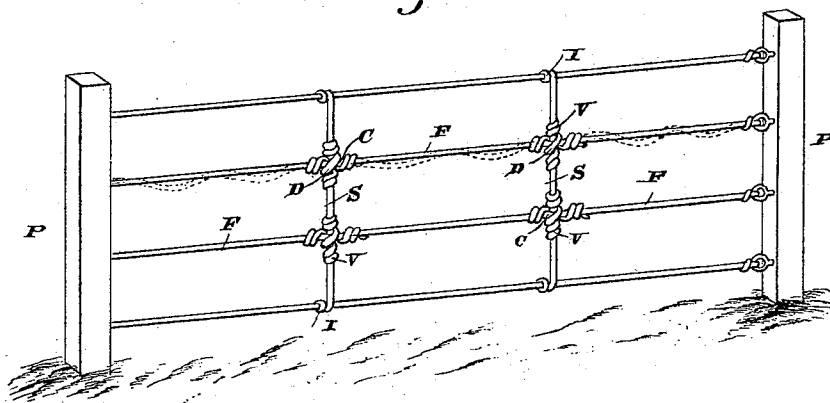


Fig. 2.

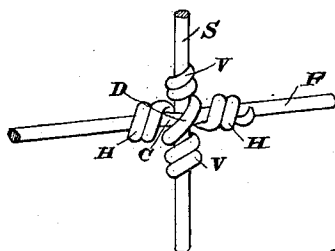


Fig. 3.

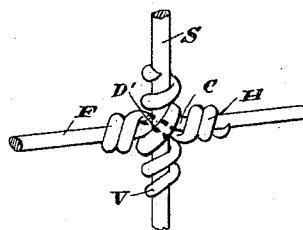
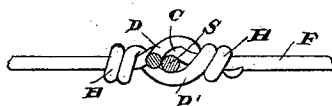


Fig. 4.



Witnesses

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By their Attorneys,

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UNITED STATES PATENT OFFICE.

GEORGE M. LAMB AND HIRAM R. LAMB, OF HILLSDALE, MICHIGAN.

FENCE.

SPECIFICATION forming part of Letters Patent No. 496,087, dated April 25, 1893.

Application filed April 16, 1891. Serial No. 389,188. (No model.)

To all whom it may concern:

Be it known that we, GEORGE M. LAMB and HIRAM R. LAMB, citizens of the United States, residing at Hillsdale, in the county of Hillsdale and State of Michigan, have invented a new and useful Fence, of which the following is a specification.

This invention relates to fences, and more especially to those which are of wire; and the object of the same is to provide an improved means for locking the fence-wires to the vertical stay-wires.

To this end the invention consists of the specific means and devices for connecting the fence-wires and stay-wires, as hereinafter more fully described and claimed, and as illustrated on the sheet of drawings, wherein—

Figure 1 is a perspective view of a portion of a fence showing our tie connected thereto. Fig. 2 is an enlarged perspective detail of one of the connections as viewed from the front side, and Fig. 3 as viewed from the rear side. Fig. 4 is a horizontal section through the connection at a point just above the horizontal coils.

Referring to the said drawings, the letters P designate posts, F fence-wires connecting the posts, and S vertical stay-wires connecting the fence-wires between the posts and having eyes I at their ends inclosing the upper and lower fence-wires, all as is shown in Fig. 1, said eyes I being formed integral with the stays by coiling their ends respectively in opposite directions around the top and bottom fence-wires, thus arranging the stay-wires upon the same side of the top and bottom fence wires. In the drawings the stay-wires are arranged in front of the top and bottom fence-wires.

C designates a crimp or bend with which each horizontal wire is provided at each point where it crosses a stay-wire, and in the present instance these crimps are shown as passing in front of the stay-wires, or in other words, the stay-wires pass in rear of the fence-wires, and lie in the crimps thereof, and in the same vertical plane with the main portions of the same. Thus the stay-wires are straight from end to end and lie in front of the top and bottom fence-wires and in rear of the intermediate fence-wires, in the plane of the latter.

V V are the coils of a vertical fastening wire which surrounds the stay-wire above and below the fence-wire, and these coils are connected by a diagonal strand D which passes over the crimp C.

H H are horizontal coils embracing the fence-wire each side of the stay-wire, and these coils are connected by a diagonal strand D' passing in rear of the point of crossing and standing at right angles to the strand D.

The crimps in the fence-wires F permit them to contract and expand considerably without causing them to become loose. In some cases we may make the fence-wires F serpentine by providing them with a succession of crimps C, as seen in dotted lines in Fig. 1, and in this case the fence-wires will have considerable expansion to allow for changes in temperature and for rough usage.

We are aware that heretofore fences have been constructed with tie-rods having a bend or crimp over the longitudinal fence wire, and that said tie-rods have been secured to the fence wires by continuous wrappings. However, by my construction, the bend or crimp is made in the fence wire which permits the required contraction and expansion due to its greater linear extent; and moreover, the tie-wire is passed straight up through the said crimp in the same plane as the fence-wires, and is there secured by two independent wrappings, one vertically coiled on the tie-wire at its extremities above and below the fence wire, and having an integral diagonal bridge-strand passing over the bend of the fence wire; and the other horizontally coiled on each side of the tie-wire on the fence wire and having a horizontal integral bridge passing over the reverse side at right angles to the vertical bridge-strand. By such independent use and arrangement of the two wrappings, the tie-wires are prevented from sagging by the vertical wrapping, and at the same time the necessary expansion and contraction is permitted by the independent horizontal wrapping co-operating with the expansion bend in the fence wire. This is an especial feature of our invention, rendering the fence as a whole more durable, and easier of maintenance and repair. Furthermore, by the relative arrangement of the fence and stay wires they are caused to press

toward each other, thus holding the parts of the fence in position for mutual support.

The independent movement of the fence or stay wires at their points of intersection is impossible owing to the oppositely inclined intermediate portions of the twisted tie-wires, which engage opposite sides of the intersection.

What is claimed as new is—

10 In a fence, the combination with the horizontal fence-wires, provided at intervals with crimps, of the vertical stay-wires, secured at their extremities, respectively, to the top and bottom fence-wires and passing through the
15 crimps of the intermediate fence-wires, said stay-wires lying in front of the top and bottom fence-wires and in rear of the intermediate fence-wires and in the same plane with the latter owing to the crimps therein, the

horizontal tie-wires coiled around the fence- 20
wires upon opposite sides of their intersections with the stay-wires, and the vertical tie-wires coiled around the stay-wires upon opposite sides of their intersections with the fence-wires, the intermediate portions of said 25
vertical and horizontal tie-wires crossing the intersections of the fence and stay-wires in inclined directions at right angles to each other, and upon opposite sides of said intersections, substantially as specified. 30

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

GEORGE M. LAMB.
HIRAM R. LAMB.

Witnesses:

W. R. BRANCH,
E. E. COTTRELL.