No. 636,535. Patented Nov. 7, 1899.

G. R. LAMB.

WIRE FENCE LOCK.

(Application filed Aug. 17, 1898.)

(No Model.)

Fig. 1.

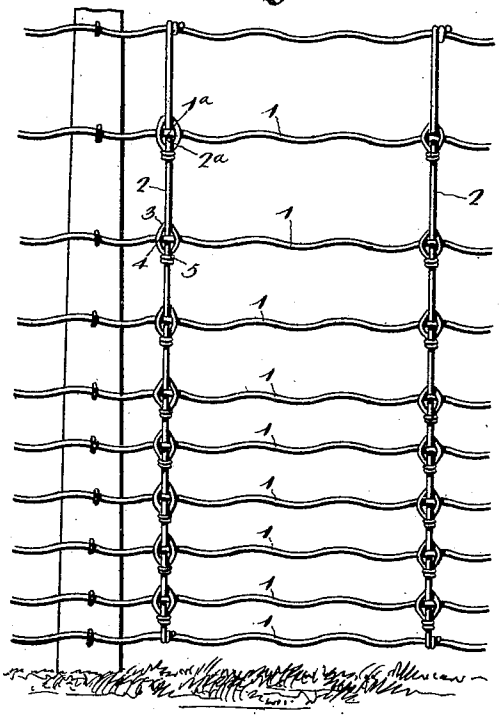
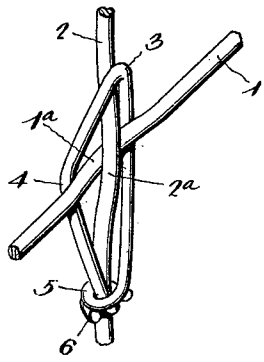


Fig. 2.



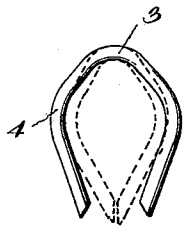




Fig. 6. Fig. 7.

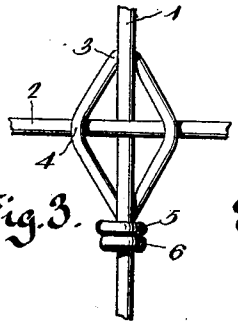


Fig. 3.

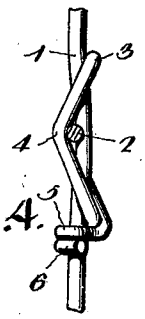


Fig. 4.



Fig. 5.

Witnesses

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GEORGE R. LAMB, OF HUDSON, MICHIGAN.

WIRE-FENCE LOCK.

SPECIFICATION forming part of Letters Patent No. 636,535, dated November 7, 1899.

Application filed August 17, 1898. Serial No. 688,794. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. LAMB, a citizen of the United States, residing at Hudson, in the county of Lenawee and State of Michigan, have invented a new and useful Wire-Fence Lock, of which the following is a specification.

My invention relates to wire fences, and particularly to a lock or tie for connecting longitudinal and transverse strands or members at their points of intersection, whereby relative displacement of said strands or members may be prevented by friction due to a constant spring tendency of the lock or tie by which said strands or members are held in contact.

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

In the drawings, Figure 1 is a view of a portion of a wire fabric applied as a fence and including a lock or tie constructed in accordance with my invention. Fig. 2 is a detail view in perspective of the lock or tie, showing the contiguous portions of intersecting fabric members. Fig. 3 is a front view of the same. Fig. 4 is a side view. Fig. 5 is an inverted plan view. Fig. 6 is a detail front view of a portion of the lock as seen after the terminal coils or hooks thereof have been disconnected in order to allow the removal of the lock from the fabric members. Fig. 7 is a side view of the same.

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

1 designates the longitudinal members or runners, and 2 the intersecting transverse members or stays, said longitudinal and transverse members at their points of intersection being slightly offset in opposite directions to form seats 1^a and 2^a, whereby the projection beyond the plane of the body portion of the fence, at the intersections of the longitudinal and transverse members thereof, may be equalized.

Engaged with the longitudinal and transverse strands at each point of intersection is a tie or lock constructed of a single blank of spring-wire doubled upon itself at its center to form a loop, of which the closed end 3 constitutes a bearing-point for contact with, for instance, the transverse member above the plane of the intersecting longitudinal member, said bearing-point being arranged upon the opposite side of the transverse member from the point of contact of the longitudinal member therewith. The arms or sides of the loop are then carried across the plane of the fabric to form bends 4, arranged in contact with the outer surface of the longitudinal strand or member. Below these lateral bearing-points 4 the sides or arms of the tie are extended downwardly or forwardly to the plane of the outer or remote side of the transverse member 2 and are provided with terminal coils or hooks 5 and 6, which are wrapped around the transverse member in different planes approximately parallel with the longitudinal member 1. Obviously one of these terminal coils, as 5, also extends around that side or arm of the loop which carries the terminal coil 6, owing to the fact that the arm which carries the coil 6 must extend beyond the plane of the coil 5.

As above indicated, spring-wire is employed for the lock or tie, and before being applied to the intersection portions of the strands or members of the fence the sides or arms of the loop are approximately straight, as indicated in full lines in Fig. 7, or, in other words, are deflected but slightly from the flat plane embracing both of said sides or arms. When the closed end of the loop is arranged in contact with the stay, and the free ends of the arms or sides of the loop are brought forward to coil their extremities around the stay upon the opposite side of the plane of the runner from the point of bearing of said closed end of the loop, the sides or arms are bowed to form the bend 4, which obviously exerts a pressure upon the longitudinal member 1, which holds it in tight frictional contact with the contiguous surface of the stay. In order that the relative positions and shapes of the parts before and during application to the strands of the fabric may be clearly understood, I have shown in Fig. 7 in full lines an edge view of the lock or tie as seen before application or subsequent to application after the terminal coils have been severed in order to allow the removal of the lock from

the fence members and in dotted lines the positions of said sides or arms of the loop while in engagement with the intersecting members of the fabric. It will be seen that the slight bend shown in full lines is just sufficient to locate the lock or tie vertically with relation to the intersection of the fence members; but when the lower extremities of the arms are drawn forward for engagement with the stay this bend is increased and the resulting pressure exerted against the longitudinal member is thereby increased in proportion to the strength of the material of which the tie is formed. Also in Fig. 6 I have shown a face view indicating in full lines the relative positions of the sides or arms of the loop before application or after the terminal coils have been detached by means of a suitable wire-cutter and in dotted lines the positions occupied by the sides or arms of the loop while engaged with the longitudinal and transverse members of the fabric.

As hereinbefore indicated, it is the object of my invention to provide a lock or tie which will hold the intersecting members of a fabric against relative displacement by means of friction. I am aware of the fact that in a large majority of ties or locks the element of friction is considered and plays an important part; but I am also aware that in the ordinary practice it is common to produce this friction by tightly coiling or twisting the members of the tie or lock around the members of the fabric. This coiling or twisting, in addition to involving considerable labor in applying the lock, is frequently inefficient by reason of the difficulty of obtaining the necessary friction and causing it to remain constant. In other words, when the friction is due to the tight coiling of a lock or tie around the intersections of the members changes of temperature are liable to cause loosening of the coils and consequent reduction of the friction. Therefore in my improved lock I attain two advantages. In the first place, the friction, being due to the resilience or spring quality of the tie, is constant and any effect produced by changes of temperature will not be sufficient to relax the pressure to a sufficient extent to allow relative displacement of the fabric members. In the second place, I am enabled to attach the lock or tie by providing the extremity of each arm or side thereof with a single hook or coil passing around or partly around one of the intersecting fabric members. All that is necessary in order to insure the efficiency of my improved lock is to so engage the extremities thereof with one of the members of the fabric as to prevent lateral displacement. The coils or hooks are not subjected to strain incident to the spring action of the lock, for the reason that the body portions of the sides or arms of the loop extend to the outer or remote side of that fabric member which is engaged by the coils or hooks. In effect the lock consists of a loop, suitably elongated, having terminal bearings upon the remote sides of one of the fabric members, and side or intermediate bearings upon the remote or outer side of the other fabric member, the normal shape of the loop being approximately flat, and the desired bearing of the extremities thereof being attained by flexing the sides or arms thereof at their points of bearing upon the longitudinal fabric member.

Locks of this construction can be applied repeatedly and with facility, and I have found in practice that they retain their efficiency under all conditions of usage and that when it is desired to remove a lock it is simply necessary to sever the coils or hooks thereof from the body portions of the sides or arms, as indicated in Figs. 6 and 7, whereupon said sides or arms not only resume their approximately straight shape, viewed edgewise, but also spring apart, as indicated in the front view, Fig. 6.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention. For instance, it will be understood that while in practice I prefer to coil the extremities of the lock around the stay-wire, as a means of securing said lock in place, such an arrangement is not an absolutely-indispensable feature of the construction, for the reason that equivalent means for fastening these free ends of the lock may be devised, such as a clip separate from the lock and extending around said extremities and the stay-wire.

Having described my invention, what I claim is—

As a new article of manufacture, a wire-fence lock or tie, consisting of a loop of spring-wire having its sides or arms spread or bowed outward at opposite intermediate points, and converged toward their free ends and toward the loop, and also having said sides or arms deflected in a direction perpendicular to the general plane of the loop, substantially as specified.

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

GEORGE R. LAMB.

Witnesses:
ORLIN T. RUMSEY,
STEPHEN A. EATON.