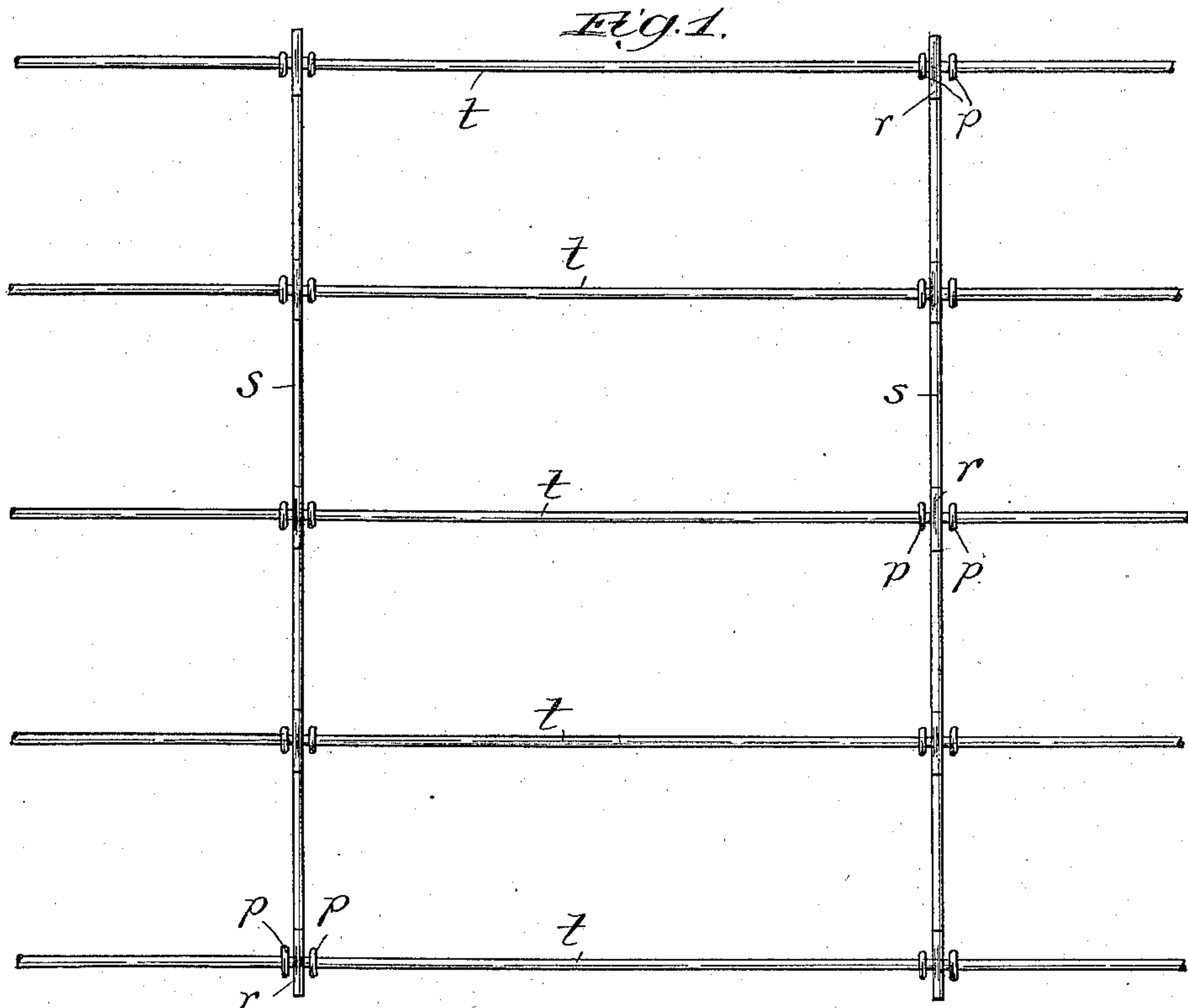


(No Model.)

C. M. LAMB.
WIRE FENCE.

No. 598,265.

Patented Feb. 1. 1898.



Witnesses:
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WOVEN WIRE FENCE COMPANY, OF SAME PLACE.

WIRE FENCE.

SPECIFICATION forming part of Letters Patent No. 598,265, dated February 1, 1898.

Application filed December 13, 1897. Serial No. 661,690. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. LAMB, a citizen of the United States, residing at Adrian, in the county of Lenawee and State of Michigan, have invented a new and useful Improvement in Wire Fences, of which the following is a specification.

My invention relates to an improvement in wire fences of the type employing vertical stay-wires for maintaining the strand-wires in correct position, and more particularly to the joints of a fence of this description.

My object is to provide a welded or autogenously-soldered joint, to the end that the wires shall be securely fixed in position and yet to make provision for a certain flexibility in the joint to permit the fence to readily adapt itself to a change in ground slope.

A further object is to overcome the objectionable feature of weakened wires at the joint incident to a welded joint as hitherto attempted.

Experiment has shown that when the stay-wires are welded directly to the strand-wires (by electric welding, which is the practical way of welding the fence-wires) not only are both wires weakened by reason of a certain portion of each wire being melted or burned away, but the welding-surface itself is so small that the joint is very easily broken. Moreover, a fence thus constructed cannot be used at all except on level ground because of the rigidity of its joints, for when it is attempted with such a fence to change from a level to an incline the result is that when the fence is subjected to the necessary stretching either the wires are bent and distorted or the joints give way. To obviate these difficulties, I form a joint by combining with the strand and stay wires at each joint a short securing wire or strip which I term a "supplementary stay-wire," and which is welded or autogenously soldered to one or both of the main wires of the fence, preferably to the main stay-wire, as shown in Figures 1, 2, and 3 of the accompanying drawings.

In the drawings, Fig. 1 is a view in elevation of a section of fence involving my preferred construction; Figs. 2 and 3, views, on an enlarged scale, of one of the joints of the

same, and Figs. 4, 5, 6, 7, and 8, views of modified forms of joints.

A is the fence-section, comprising strand-wires *t*, main stay-wires *s*, and supplemental stay-wires *r*. In the preferred construction the supplemental stay-wire is parallel to the main stay-wire and welded thereto at its ends, the strand-wire being first introduced between the two. The stay-wires are provided with suitable bays or sets-off at the joints, as shown. The supplementary stay-wires are of sufficient length to afford enough welding-surface to produce a strong joint. The stay-wires are confined within narrow limits against movement longitudinally of the strand-wires by rings *p*, fixed to the strand-wires. These rings may be welded to the strand-wires or they may be held against moving by spelter applied thereto, since the tendency to move longitudinally of the strand-wires is not great. The rings should allow a small latitude of movement of the main wires with relation to each other to give a slightly-flexible joint to permit the fence to be used on rolling ground. Thus the stay-wires are allowed to remain practically vertical while the inclination of the strand-wires is varied.

The particular manner of twining the supplementary stay-wire about the joint is of secondary importance. Some of the advantageous modifications are shown in Figs. 4 to 8, inclusive. It is obvious that it is within the spirit of my invention to employ a supplementary stay-wire twined about the joint and having one end welded to the stay-wire and one end welded to the strand-wire; and such a construction would secure the wires absolutely against slipping with relation to each other and still preserve the desired flexibility of the joint so far as to permit use on rolling ground. I desire to be understood also as intending by the term "welded" as used in the appended claims to cover a joint formed by fusing together or autogenously soldering the meeting surfaces.

It should be noted that two important objects are accomplished by my improvement: First, the joints may be rendered flexible to any desired degree, depending upon the degree of laxness of the supplemental stay-wire,

and, second, the joint may be given any desired degree of strength, since it is only necessary to lengthen the supplemental stay-wire to accomplish this purpose, thereby increasing the welding-surface. The thickness of wire also is rendered greater at the point of welding instead of being lessened, as suggested by a former method of producing a welded joint.

10 I desire to be understood as intending by the term "welded" as used in the appended claims to cover any construction wherein the supplementary stay-wires are so joined to the fence-wiring as to form practically an integral part of the wiring whether the joining
15 be effected by ordinary welding under pressure or by any other species of welding, including that commonly known as "autogenous soldering"—that is to say, that it is within
20 the spirit of my invention to employ supplementary stay-wires for producing flexible joints, it being necessary, of course, that the stay-wires shall be so attached to the main fence-wiring as to maintain the wires in
25 proper relationship at the joint within the limit of flexibility desired.

What I claim as new, and desire to secure by Letters Patent, is—

30 1. In a wire fence comprising strand and stay wires, the combination with said wires at their junctions of supplementary stay-wires

welded to the fence-wiring adjacent to the junctions and forming part of the joint, substantially as described.

2. In a wire fence comprising strand and stay wires, the combination with said wires at their junctions, of supplementary stay-wires forming part of the joints embracing said junctions and each welded at one portion to one of the main stay-wires, substantially as
40 and for the purpose set forth.

3. In a wire fence comprising strand and stay wires, the combination with said wires at their joints of supplementary stay-wires contacting with the strand-wires and welded to
45 the main stay-wires above and below the strand-wires, substantially as and for the purpose set forth.

4. In a wire fence comprising strand and stay wires, the combination with said wires at their joints of supplementary stay-wires contacting with the strand-wires and welded to the main stay-wires above and below the strand-wires, and rings *p* upon the strand-wires to limit movement longitudinally there-
55 of, substantially as and for the purpose set forth.

CHARLES M. LAMB.

Witnesses:

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