

No. 859,126.

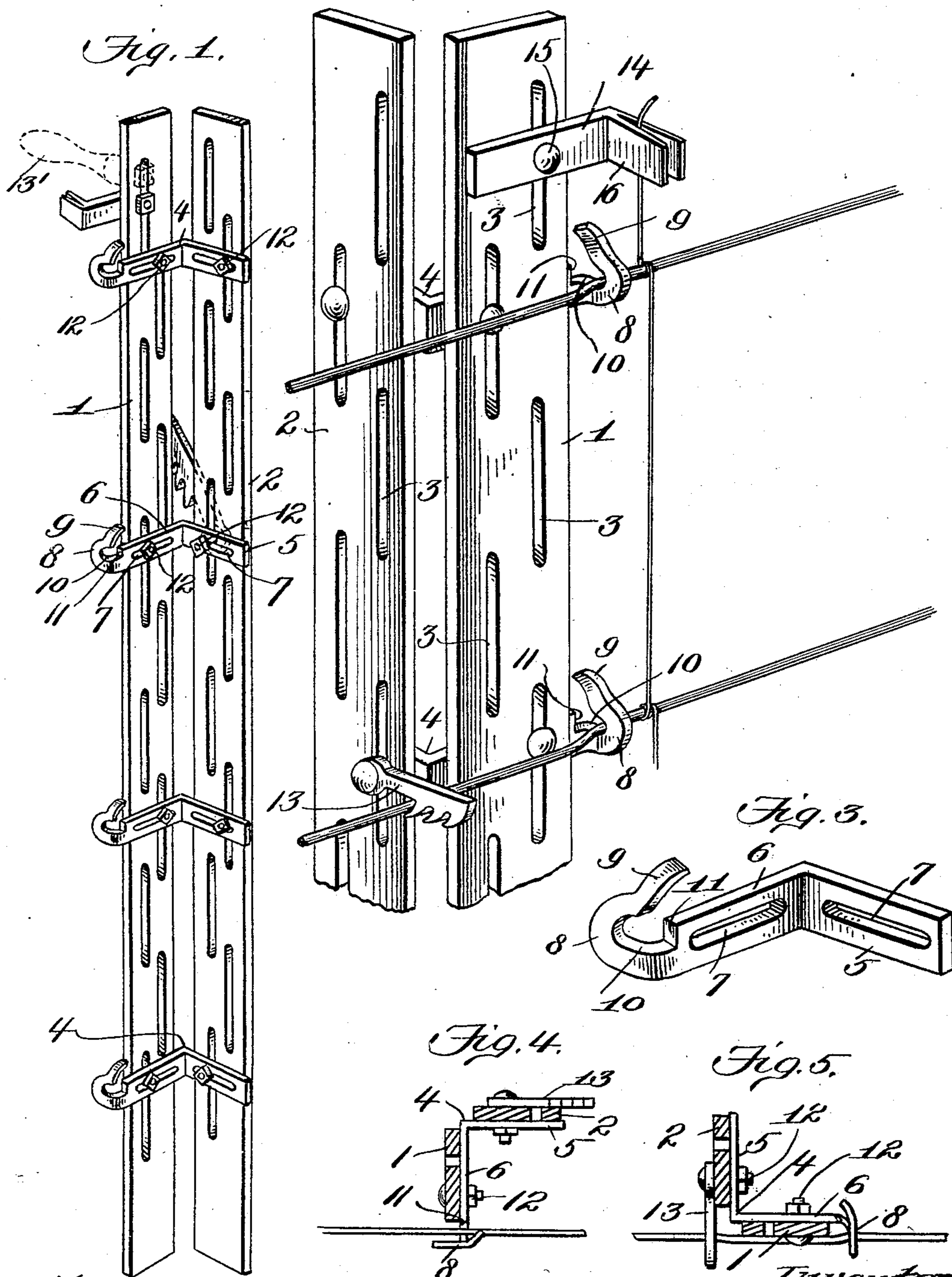
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R. S. SHOWALTER.
SPACING APPARATUS FOR WIRE FENCE MACHINES.

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Fig. 2.

Fig. 1.



Witnesses.
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SPACING APPARATUS FOR WIRE-FENCE MACHINES.

No. 859,126.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, REUBEN S. SHOWALTER, a citizen of the United States, residing at Dale Enterprise, in the county of Rockingham and State of Virginia, have invented new and useful Improvements in Spacing Apparatus for Wire-Fence Machines, of which the following is a specification.

This invention has for its object to provide an apparatus whereby the strands or runners may be held in a proper spaced relation while the stay wires are being applied.

A further object of the invention is to provide an apparatus of the character indicated wherein the strand engaging devices may be adjusted toward and from each other to adapt it for use upon any fence composed of horizontal strands or runners at what ever distance such strands or runners may be spaced apart.

Other objects of the invention are to produce an apparatus of the character set forth which will be simple in construction, cheap to manufacture, and easily transported from place to place.

With these and other objects in view, the invention consists of the novel construction, combination and arrangement of parts hereinafter described and illustrated in the accompanying drawings wherein I have set forth the preferred embodiment of the invention, but it is to be understood that I may make such changes, variations and modifications therein as properly come within the scope of the claims hereunto appended.

Referring to the accompanying drawings wherein like reference characters denote similar parts: Figure 1 is a perspective view of the preferred embodiment of my apparatus. Fig. 2 is a similar view of a portion of the same and looking towards the opposite side thereof. Fig. 3 is a detail perspective view of one of the strand wire engaging devices, the latter also serving to adjustably connect the supporting members of the apparatus. Figs. 4 and 5 are horizontal sections of the apparatus showing a portion of a strand wire or runner and the mode of application of my apparatus thereto.

The numerals 1 and 2 designate supporting members preferably in the form of bars of suitable length each provided with elongated slots 3 disposed in staggered relation on opposite sides of the vertical center of the bar. The members 1 and 2 are held in planes at an angle to each other by connecting devices 4, each comprising arms 5 and 6 arranged at angles to each other and having slots 7, the free extremity of the arm 6 having a strand or runner engaging terminal or hook 8 disposed in a plane at an angle to said arm, said hook being provided with an upwardly projecting inclined guard 9. The eye or opening 10 of the hook 8 is formed by cutting the material away at the free extremity of the arm 6, and by such removal of the material the arm 6 is provided with an upper shoulder 11, the guard 9 pro-

jecting over in proximity to said shoulder in the direction of the outer side of the member 1, as clearly shown by Fig. 2. The several connecting devices 4 are secured to the members 1 and 2 by suitable hold-fast devices such as bolts 12 extending through the slots 7 of the connecting devices and contiguous slots 3 of the supporting members. One of the hold-fast devices 12 may engage either an inner or outer slot 3 in one supporting member and the remaining hold-fast device of each connecting member 4 may also engage either an inner or outer slot 3 in the other supporting member, the slots 3 engaged by the hold-fast device 12 depending upon the position of the connecting devices 4 and the adjustment sought or predetermined.

By arranging the slots 3 in the members 1 and 2 in a staggered relation a wide range of adjustment can be obtained without making it necessary to detach the connecting devices 4 from the supporting members, or to completely separate the hold-fast devices 12, and in making an adjustment or changing the position of the connecting devices to accommodate strands or runners that may be spaced closer or further apart than in the fence last worked upon, it is only necessary to loosen the hold-fast devices 12, move the connecting devices up or down and then tighten said hold-fast devices when the proper spacing of the connecting devices has been obtained. However, should it be desired, in order to accommodate the device to a fence wherein the strands or runners are closer together or further apart than in the fence for which the apparatus was last adjusted to move the connecting members 4 and strand engaging devices 8 closer together or further apart than would be possible by merely loosening the hold-fast devices 12 and moving them in the slots 3 toward or from one another, the hold-fast devices 12 may be entirely released and placed in the higher or lower slots on the opposite side of the vertical center of the supporting members 1 and 2. In doing this the slots 7 in the arms 5 and 6 of the connecting devices come prominently into play and perform a useful function by permitting the hold-fast devices 12 to be moved longitudinally in said arms to compensate for the arrangement of the hold-fast devices in the inner or outer slots 3, and still maintain the angularity of the members 1 and 2 and a regularity of projection of the terminals or hooks 8 outwardly from the edge of one of said members as set forth. Another advantage in arranging the slots 3 in staggered relation as set forth is that the strength and durability of the members 1 and 2 are less impaired than they would be were said slots continuous throughout the length of the members 1 and 2, or were there a single slot in each of said members, or did said members have a plurality of small bolt openings. In members provided with a plurality of bolt openings a material

disadvantage results in that it is necessary to completely detach the fastenings for the connecting members and separate the whole apparatus to make a change in adjustment, no matter how slight the adjustment desired.

The hooks 8 project outwardly at an angle to the outer face of the member 1. Against the outer side of the member 2 a strand hook 13 may be secured by one of the bolts 12, the function of this strand hook being to hold the apparatus firmly in place against the strands or runners after the apparatus has been applied thereto, as will be hereinafter more fully set forth. This strand hook is vertically movable along the member 2 in the same manner as the connecting device to which it is preferably attached by one of the hold-fast devices 12. While it is preferred that this strand-hook be secured to the apparatus by one of the hold-fast devices 12 utilized for applying one of the connecting devices 4, it will be understood that said strand hook might be held by an independent bolt and in a slot at a distance from one of the slots with which one of the connecting devices may be in cooperation. The apparatus may also embody holding means for one end of the stay wires to keep the latter in proper position while it is being wrapped about the strands or runners. This holding means preferably consists of an angular member 14 through one arm of which extends a bolt 15 which engages one of the slots 3 of the member 1 at the upper extremity of the latter and its other arm being bifurcated as at 16, to provide clamping jaws in which the stay wire is frictionally held, as shown by Fig. 2. The bifurcated projection 16 stands out from the same edge of the member 1 at which the hooks 8 are located and at a sufficient distance from the said hooks to permit a practical application of the stay wires. This stay wire holding means may be vertically adjusted proportionate to the adjustment of the connecting devices 4.

The apparatus above described may be used with any suitable fence making mechanism, or it may be employed in some instances as an assistance in manually applying stay wires to strands or runners.

In applying the apparatus, the member 1 of the frame is first disposed with respect to the strands or runners as shown by Fig. 4, or so that said member 1 is in a plane at right angles to the strands with the latter in straight condition and bearing on the base walls of the openings of the hooks 8 and with the free terminals of the guards 9 partially extending over the strands. The apparatus as a whole is then turned towards the strands or runners to bring the outer surface of the member 1 against the said strands or runners and during such movement of the apparatus the strands or runners are caused to contact with the shoulders 11, and as the walls of the openings 10 of the hooks 8 are in substantially the same plane with the outer surface of the member 1, the strands or runners, in view of the thickness of the latter, will be slightly kinked and said strands or runners clamped firmly against the outer surface of the member 1, especially when the strand hook 13 is caused to engage one of the strands or runners, which is done immediately upon the termination of movement of the frame in order to overcome any tendency of the frame to relax and also to hold the latter in immovable applied position with

respect to the strands or runners. The formation of the kinks by the hooks 8 also overcome any tendency of the frame to slip longitudinally on the strands or runners. After the frame has been set, the stay wire may be positively applied at the point desired with respect to all the strands or runners, and after such application of the stay wire the apparatus may be quickly released and moved longitudinally on the strands by turning the same again in the position shown by Fig. 4 and when it has been moved along the strands or runners to a point where it is desired to apply another stay wire on the strands it may again be turned to the position shown in Fig. 5. It is unnecessary in moving the apparatus along the strands or runners to disengage the hooks 8, and any accidental disengagement of the strands is obstructed by the guards 9 which incline inwardly and upwardly from the hooks 8. Such disposition also facilitates the application of the hooks to the strands. That portion of each of the stay wires between the bifurcated projection 16 of the stay wire holding means and the uppermost strand or runner will be removed or separated by cutting after the stay wire has been twisted around all of the strands or runners.

The improved apparatus will be found exceptionally useful and, since the parts thereof are readily separable, it may be conveniently stored in compact form when not in use. It will be evident that, as previously set forth, minor changes in the proportions, dimensions and details may be resorted to without departing from the spirit of the invention. The parts 1 and 2 in the present case serve as a convenient frame; a frame of any other desired character may, however, be provided.

It will be remembered that I have described a strand hook 13. This strand hook may be of any desirable character, although it preferably has as illustrated several notches in its under edge in order to adapt the hook to the particular diameter of wire forming the runners.

To facilitate the handling of the apparatus the same may be equipped at some suitable point with a handle. I have illustrated such a handle in the drawings and denote the same by 13'. This handle appears only in Fig. 1 and is represented therein in dotted lines.

What I claim is:

1. In an apparatus of the class specified, separate angularly related vertical supports, and connecting devices for said supports, having projecting wire engaging terminals.
2. In an apparatus of the class specified, separate angularly related vertical supports, and connecting devices for said supports, adjustable on the latter and provided with projecting wire-engaging terminals.
3. An apparatus of the class specified having separate angularly related vertical supports, and angular connecting devices for the supports, having wire engaging terminals.
4. An apparatus of the class specified having angularly related members, and angular connecting devices for said members, provided with wire-engaging terminals, the connecting devices being adjustable longitudinally and laterally of the members.
5. In an apparatus of the class specified, separate angularly related supporting members, connecting devices for said members adjustable on the latter and provided with projecting wire-engaging terminals, and a strand hook carried by one of the members.
6. In an apparatus of the class specified, angularly re-

lated members, connecting devices for said members adjustable on the latter and provided with projecting wire engaging terminals, and a strand hook carried by and adjustable on one of the members.

5 7. In an apparatus of the class specified, separate angularly disposed vertical supports, and connecting devices for said supports having angular hooked terminals.

10 8. In an apparatus of the class specified, separate angularly disposed vertical supports, and connecting devices for said supports, having angular hooked terminals projecting from the edge of one of the members.

15 9. In an apparatus of the class specified, angularly disposed vertical supports, and connecting devices for said supports having angular hooked terminals with upwardly inclined guards.

20 10. In an apparatus of the class specified, a frame provided with two members disposed at an angle to each other, and angular connecting members arranged one above the other separate from and suitably connected with the said members, said connecting members having hooks projecting from one of the edges of one of said frame members.

25 11. In an apparatus of the class specified, a frame provided with two members disposed at an angle to each other, and angular connecting members arranged one above the other separate from and suitably connected with the said members, said connecting members having hooks projecting from one of the edges of one of said frame members, each of said hooks being laterally bent, the hooks serving to receive wire strands and the bent portions thereof serving to grip wires when the frame as a whole is turned.

30 12. In an apparatus of the class specified, a frame having hooks to grip wires, and a strand hook to engage one of said wires, the several hooks constituting the sole supporting means for the frame.

35 13. In an apparatus of the class specified, a frame having a hook projecting from one edge thereof, the hook serving to receive a wire strand and to tightly grip said strand when the frame is turned toward the strand, and a strand engaging device distinct from the hook to engage said strand to hold the frame in operative relation with the strand when the frame is thereagainst.

40 14. In an apparatus of the class specified, a frame having a hook to grip a strand, and a strand hook pivoted upon the frame to engage said strand to maintain the frame in operative relation with said strand.

45 15. In an apparatus of the class described, a frame having a hook laterally bent to receive a wire strand and to kink said strand when the frame is moved toward the same, and a strand engaging hook movably mounted upon

the frame to engage said strand to hold the frame in assembled relation with the strand.

16. In an apparatus of the class specified, angularly disposed members having slots extending longitudinally thereof, connecting devices for said members also having slots therein and provided with wire engaging terminals, and hold-fast devices extending through the slots of the respective parts. 55

17. In an apparatus of the class specified, angularly disposed members having longitudinal slots in staggered relation in each, connecting devices for the members also having slots and provided with wire engaging terminals, and hold-fast devices extending through said slots. 60

18. In an apparatus of the class specified, a frame, and wire engaging members operatively associated with said frame and adjustable longitudinally and laterally thereof. 65

19. In an apparatus of the class specified, a frame having elongated slots, devices also having elongated slots and fitted to the frame, and hold-fast means to extend through the respective slots and to provide for longitudinal and lateral adjustment of said devices with respect to the frame, said devices having wire engaging means. 70

20. In an apparatus of the class specified, a frame, devices associated with said frame for positively engaging the strands of a wire fence, and a device for engaging one of said strands at one side of one of said other devices. 75

21. In an apparatus of the class specified, a frame, laterally separated associated with the frame for positively engaging the strands of a wire fence, and a clamping device for a stay wire also operatively associated with said frame. 80

22. In an apparatus of the class described, a frame, superposed hook devices associated with said frame for positively engaging the strands of a wire fence, and a movable device also associated with said frame for engaging one of said strands at one side of one of said other devices. 85

23. In an apparatus of the class described, a member having longitudinal slots, arms having longitudinal slots, hold-fast devices extending through the respective slots to provide for the adjustment longitudinally and laterally of said arms with respect to said member, said arms having wire-engaging terminals. 90

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 95

REUBEN S. SHOWALTER.

Witnesses:

A. D. WEAVER,

B. F. MINNICH.