No. 865,305. PATENTED SEPT. 3, 1907.

A. HEIM.

# LOCKING DEVICE FOR CROSS WIRES.

APPLICATION FILED JULY 11, 1906.

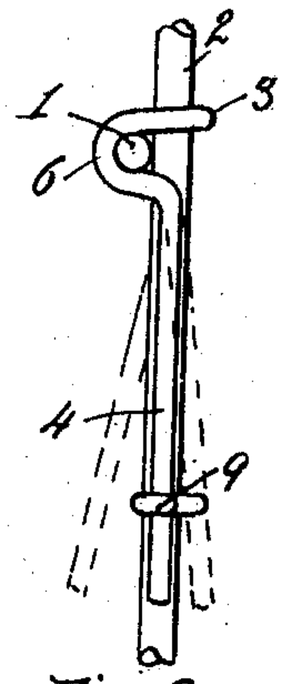


Fig. 2

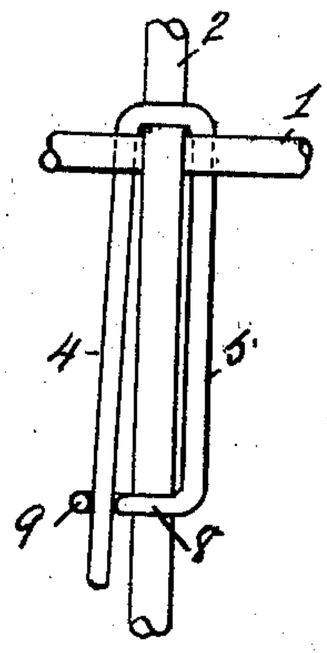


Fig. 1.

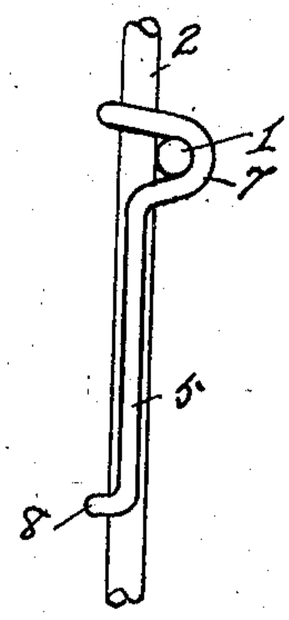


Fig. 3.

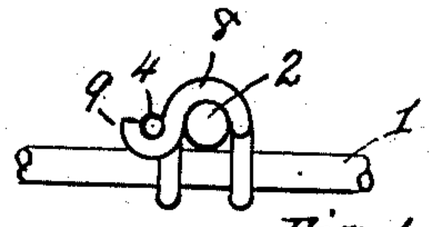


Fig. 4.

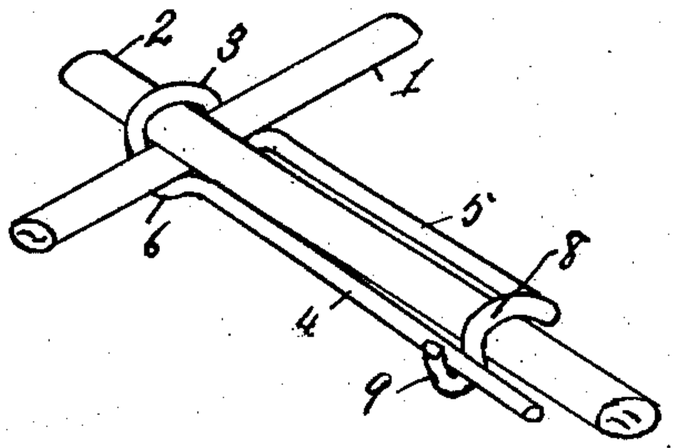


Fig. 5.

Witnesses,

Samuel S. Carr.

Mary E. Carr.

Adam Heim, Inventor.

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# UNITED STATES PATENT OFFICE.

ADAM HEIM, OF BROWNSVILLE, INDIANA, ASSIGNOR OF ONE-HALF TO CHARLES A. RIEMAN, OF CONNERSVILLE, INDIANA.

## LOCKING DEVICE FOR CROSS-WIRES.

No. 865,305. Specification of Letters Patent. Patented Sept. 3, 1907.

Application filed July 11, 1906. Serial No. 325,666.

*To all whom it may concern:*

Be it known that I, ADAM HEIM, a citizen of the United States, residing at Brownsville, Union county, Indiana, have invented a new and useful Improvement in Locking Devices for Cross-Wires, of which the following is a specification.

My invention relates to locking devices for cross wires of the class adapted to use of florists in erecting temporary trellises, and the objects of my improvement are to construct each locking device of a single length of resilient wire; to provide a removable device which may be repeatedly used to removably and securely clamp cross wires together in frictional contact and in different adjusted positions to obtain a perfect alinement, and to combine simplicity and durability with facility of operation and efficiency of action.

These objects are attained in the following described manner as illustrated in the accompanying drawings, in which:—

Figure 1 is a front elevation of a locking device embodying my improvement; Figs. 2 and 3, opposite side elevations respectively; Fig. 4 an end elevation; Fig. 5, an isometrical view.

In the drawings, 1 represents a horizontal strand wire and 2 a vertical picket wire in contact therewith. A curved clamping yoke 3 adapted to partially encircle the picket wire is formed, together with straight parallel legs 4 and 5, by means of a return bend in the middle portion of a single piece of resilient wire. Curved fulcrum yokes 6 and 7 adapted to partially encircle the strand wire are formed with a common axis at right angles to, and in a plane parallel with, the axis of the clamping yoke by means of curved bends in the respective legs 4 and 5. Said legs being extended therefrom in parallel planes on opposite sides of the axis of the clamping yoke. A curved locking foot 8 formed on the end portion of leg 5 is turned inwardly in a plane at right angles thereto and registers with the clamping yoke, said foot terminates in an open catch 9 adapted to detachably engage with the end portion of leg 4. By constructing the parts in this manner, when the leg 4 is out of the hook or catch 9 its free end is normally below the hook and the strain or tension of the clamp is such that the cross wires can be moved or shifted upon each other into any desired position, but as soon as the leg is raised into the catch it will cause its bend or yoke 6 to engage more firmly with the cross wires and it will also have a tendency to bear down upon the hook or catch as upon a lever and thereby lift up on the leg 5 and cause its yoke 7 to increase its grippage on the cross wires and thus hold the wires against movement. In addition to this, the projection or extension of the legs in the form of a hook and the free end supported therein will permit of the clamp being readily clasped or unclasped or even removed from the cross wires at any time by the fingers, whereas, if said ends only engaged with one of the cross wires without any projecting portions it would be very difficult to remove them from the wire without tools of some kind.

In operation, the cross wires are to be placed at right angles in contact with each other. The locking device is then attached thereto with the clamping yoke in contact with the front side of the picket wire and the fulcrum yokes in contact with the rear side of the strand wire. The curved foot is then to be engaged with the front side of the picket wire under the yielding resistance of its leg. The opposite leg is then detachably engaged with the catch on the foot whereby the cross wires are immovably clamped together in frictional contact with each other. When the leg is disengaged from the catch on the foot the yielding resistance of the other leg exerted on the foot retains the device in position and permits the cross wires to be adjusted in relation to each other as desired to secure a perfect alinement of the structure.

I am aware that Patent Number 597,583 was granted January 18, 1898 to Emil M. Kopka for fences; that Patent Number 738,810 was granted September 15, 1903 to Sheldon E. Jackson for wire-fence-stay fasteners and that Patent Number 809,395 was granted January 9, 1906 to Elmer T. Pocklington for locks for cross wires.

Having described my invention, I claim;—

1. As a new article of manufacture, a temporary locking device for cross wire structures, consisting of a single piece of resilient wire doubled upon itself substantially midway of its length to form a bend and two legs, each leg being bent at its inner end substantially at right angles to the plane of the first mentioned bend and provided with a curve to form a yoke, the free end of one of said wires being bent laterally toward the other leg and provided with a curve to correspond with the first mentioned bend and terminating beyond the curve in an oppositely bent hook, and the free end of the other leg normally lying below said hook and adapted to be lifted thereinto, said hook and extended end forming projections for manipulating the device.

2. In a cross wire structure, the combination with wires crossed at right angles to each other, of temporary locking devices therefor, each device being formed from a single piece of resilient wire doubled upon itself substantially at its middle to form a bend adapted to engage with one of

the cross wires and two legs which are adapted to engage with the cross wire and extend substantially longitudinally upon opposite sides of the first mentioned wire, the free end of one of the legs being bent laterally and curved to engage with said first mentioned wire and terminating in a hook bent oppositely to the curve and located beyond the opposite side of the wire, and the free end of the other leg normally lying below the hook and being adapted to be moved into and out of said hook and extending beyond the same, the bends of said locking wire being such that when the leg is in the hook the cross wires will be held against movement but when the leg is out of the hook the cross wires can be moved without entirely removing the device from the cross wires.

ADAM HEIM.

Witnesses:
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