

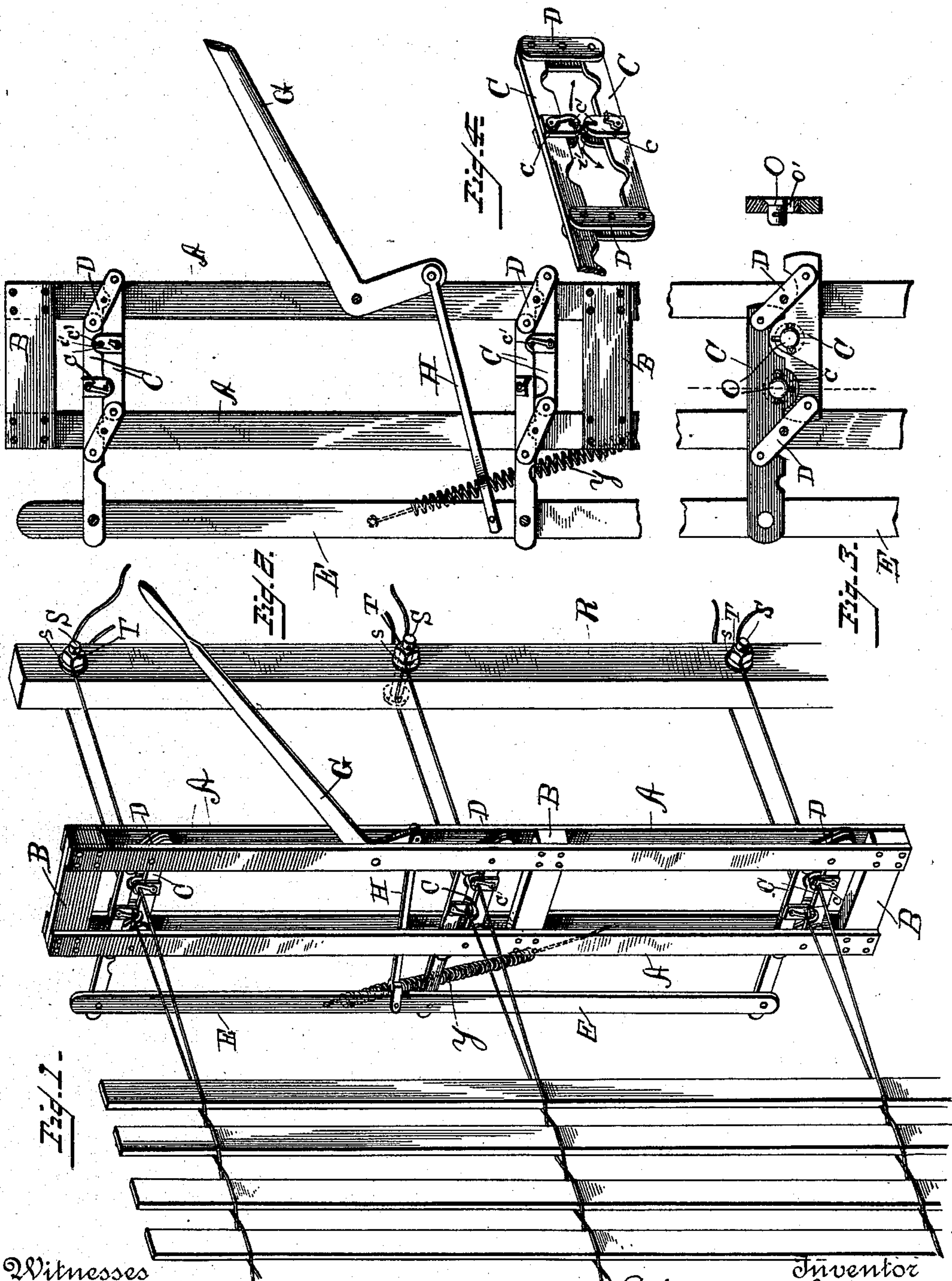
(No Model.)

E. A. LEINARD & G. W. SHEETS.

FENCE MACHINE.

No. 412,634.

Patented Oct. 8, 1889.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## FENCE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 412,634, dated October 8, 1889.

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*To all whom it may concern:*

Be it known that we, EDGAR A. LEINARD and GEORGE W. SHEETS, both of Karle, in the county of Williams and State of Ohio, have  
5 invented certain new and useful Improvements in Fence-Machines; and we do hereby declare the following to be a clear and exact description of the same, reference being had to the accompanying drawings, forming a part  
10 of this specification, and to the figures and letters of reference marked thereon.

This invention relates to certain improvements in that class of fence-machines which weave strands of wire around uprights—as  
15 pickets—while in vertical position or in the position the fence is to occupy when completed, the wires for this purpose being stretched between the permanent fence-posts.

The object of this invention is to provide a  
20 machine of simple and efficient construction which will simply cross the wires between each of the pickets, and which can be operated by a person entirely unskilled in handling such machines—such, for instance, as the  
25 ordinary farm laborer is apt to be.

This invention consists in certain novel details of construction and combinations and arrangements of parts, to be hereinafter described, and pointed out particularly in the  
30 claims at the end of this specification.

In the accompanying drawings, Figure 1 is a perspective view of a machine constructed in accordance with our invention with the tension-bar in position. Fig. 2 is a side elevation with one side of the frame removed.  
35 Fig. 3 is a detail of a modification. Fig. 4 is a detail of the wire holders or carriers.

Similar letters of reference in the several figures indicate the same parts.

40 In the preferred construction of machine shown in Fig. 1 a substantially rectangular frame, preferably with double side bars A, is employed, said bars being arranged with a narrow space between them and braced at the  
45 ends and intermediate points by cross-pieces B, thus forming a rigid structure not easily racked or bent out of shape by rough handling, even though made of very light material. Between the side bars are arranged the  
50 wire holders or carriers, each consisting of a bar or carrier C, with a projection c at one side, having an aperture c' therein, through which a strand of the wire passes, said bars

being arranged in pairs and pivotally mounted on the ends of short connecting-links D, piv- 55  
oted at the center in bearings between the bars A. Thus it will be seen that the carriers also work between the bars and are caused to move simultaneously in opposite directions, as will be readily understood. One 60  
of the carriers of each pair is extended or made somewhat longer at one end to serve as an arm or medium through which motion may be imparted to the carriers, and on the ends of these arms is hung a connecting bar or 65  
upright E, of sufficient strength to cause simultaneous movement of all the carriers when the power is applied to the bar at one point. This may be done directly by hand, but is preferably applied through the medium of 70  
the bell-crank lever G, pivoted on the opposite side of the frame A, and connecting-link H, extending from the shorter arm of the lever to a point at substantially the center of the connecting-piece. The bell-crank shape 75  
of the lever brings the longer arm or handle up near the frame into convenient position for operation. Thus when the handle is moved out and in the movement in each direction will cause the carriers to shift from 80  
one position to the other and cross the wire. The projections c, constituting the wire-holders proper, it will be seen, enable the wires to be crossed squarely and pressed together at the point of crossing, thus facilitating the 85  
entry of the picket in front of the cross.

Any desired form of device may be employed to hold the wires in place, two forms being shown in the drawings, Figs. 1 and 3, the preferred form being that shown in Fig. 90  
1. This consists simply of an aperture c', in the projection c, with a slot-opening i' to enable the wire to be passed in at any point without the necessity of threading the same through the opening. 95

Hooks I are pivoted below the openings i, and after the wires are in place are swung up over the same, entirely closing the slot i' and retaining the wires securely within the opening, at the same time permitting them to 100  
move longitudinally or the machine to be moved along on the wires, as will be readily understood.

The other form of holder, Fig. 3, is a simple aperture through the extension, with an 105  
enlargement to one side, in which fits a plug



or filling-piece O, which is headed and countersunk on one side and retained in place by a split cotter on the other side. This construction permits the wires to be passed  
 5 through a comparatively large opening, and to be then confined and, if desired, slightly clamped to steady and retain the machine in place. The plugs, it will be seen, are notched at one side, which notch (lettered *o'*) ordinarily registers with the opening *c'*; but, if  
 10 desired, the plug may be turned and the wires held within the openings *o'*, moved around to vary the extent of their separation at each movement, as may be desirable or necessary  
 15 in handling thick or thin pickets.

The operation of the machine is as follows: The wires are stretched in pairs between posts or other supports, the pairs corresponding in numbers and relative distance from  
 20 each other with the pairs of carriers on the machine. The machine is then hung on the stretched wires and the handle grasped and moved in one direction, separating the wires. Then a picket is inserted and the handle  
 25 moved in the opposite direction, crossing the wires in front of the picket and binding the same firmly in position. If desired, a spring *y*, connected at one end to the frame and at the opposite end to the connecting-bar, may  
 30 be employed, the object being to insure the full movement of the carriers in each direction, as the spring will tend to keep the bar down when in each position, as will be readily understood by those skilled in the art.

35 The crossing of the wires necessarily requires greater length of wire than would be required were the same left straight. Thus, were the wires put under moderate tension at first when the fence was partially completed, the wires would be under such tension as to practically prevent the operation  
 40 of the machine, and in order to prevent this and insure a constant and even tension I preferably connect the wires firmly to a rigid post at one end only and secure them at the  
 45 opposite end of the length in a frictional tension device, as illustrated in Fig. 1. This tension device consists of an upright or central post R, with horizontal apertures through  
 50 the same corresponding to the desired positions of the wires. Slotted screw-threaded bolts S are passed through these apertures and washers S placed thereon adjacent to the post, with nuts T outside of the same.  
 55 The wires are passed through the slots in the bolts and the nuts set up until sufficient friction is obtained to give the desired tension.

It is obvious that the structure of the frame of the machine herein described may be  
 60 greatly changed and altered without departing from the spirit of our invention, the essential feature of which consists in its particular form of holders and carriers with their operating mechanism.

65 Having thus described our invention, what we claim as new is—

1. In a fence-machine, the combination,

with the frame, of the pairs of carriers pivotally mounted at both ends on opposite ends of connecting-links pivoted at the center to  
 70 the frame, substantially as described.

2. In a fence-machine, the combination, with the frame and links pivotally connected thereto at substantially the center, of the  
 75 pairs of carriers mounted at both ends on opposite ends of the links, and an operating-bar uniting one of the carriers of each pair, whereby they may be moved simultaneously in either direction, substantially as described.

3. In a fence-machine, the combination, 80 with the frame and links pivotally connected thereto at substantially the center, of the pairs of carriers mounted at both ends on opposite ends of the links, an operating-bar uniting one of the carriers of each pair, and  
 85 a bell-crank operating handle pivoted to the frame and connected to said bar for imparting motion thereto, substantially as described.

4. In a fence-machine, the combination, with the frame having the double side bars, 90 of the links at the front and back, each pivoted at the center between said bars, and the carriers mounted on opposite ends of each pair of links, substantially as described.

5. In a fence-machine, the combination, 95 with the frame and the links pivoted thereto at the center to move in a vertical plane, of the carriers mounted on the ends of the links and having the vertical projections for the wire-holders, substantially as described. 100

6. In a fence-machine, the combination, with the frame and the links pivoted thereto at the center to move in a vertical plane, of the carriers mounted on the ends of the links and having the vertical projections thereon, 105 with the apertures in the same, through which the wire passes, substantially as described.

7. In a fence-machine, the combination, with the frame and the links pivoted thereto 110 at the center, of the carriers mounted on the ends of the links and having the projections thereon, with the movable plugs therein having the notch in the edge, through which the wire passes, substantially as described. 115

8. In a fence-machine, the combination, with the frame, the pairs of wire-carriers, and connecting-links pivoted to the frame intermediate the carriers, of a spring for holding said carriers at each extreme of their 120 movement.

9. In a fence-machine, the combination, with the frame, pairs of wire-carriers, connecting-links pivoted to the frame intermediate the carriers, and the bar uniting one of 125 each pair of said wire-carriers, of the spring connected at one end to the bar and at the opposite end to the frame, as set forth.

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