No. 627,191. Patented June 20, 1899.

W. J. JACOBS.

DEVICE FOR ATTACHING STAY WIRES TO WIRE FENCES.

(Application filed Oct. 21, 1898.)

(No Model.)

Fig. 1.

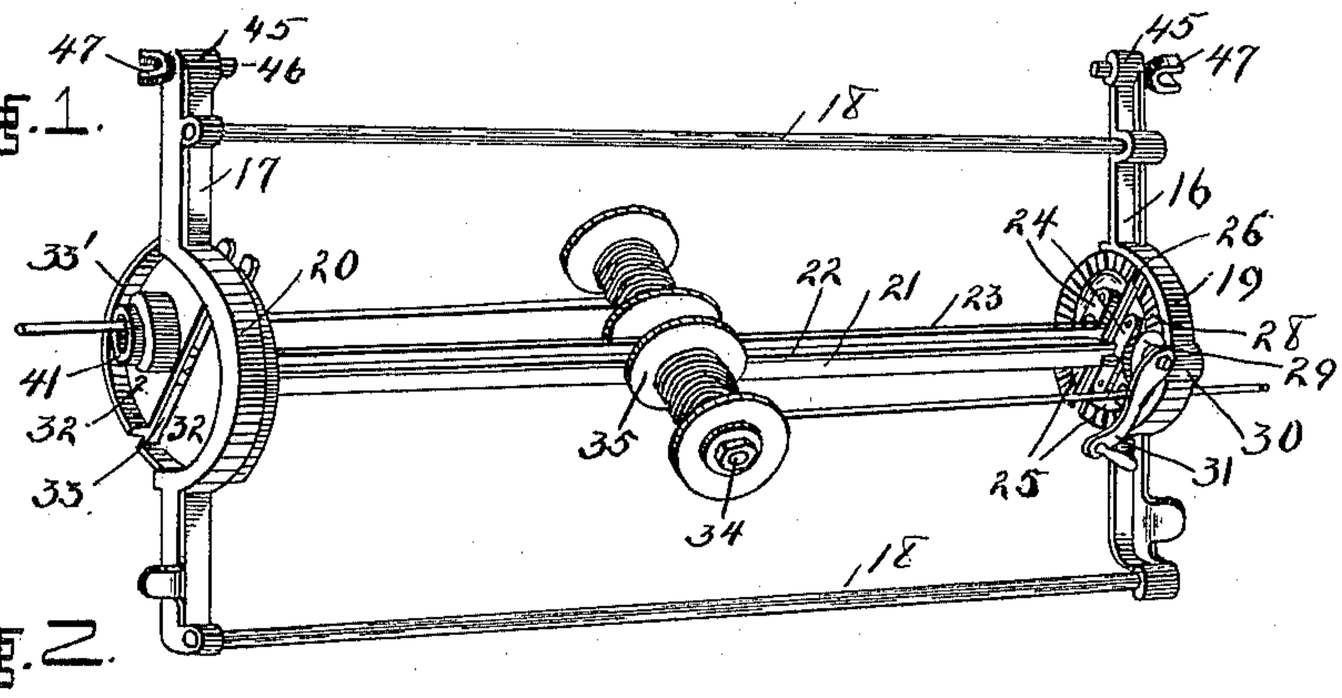


Fig. 2.

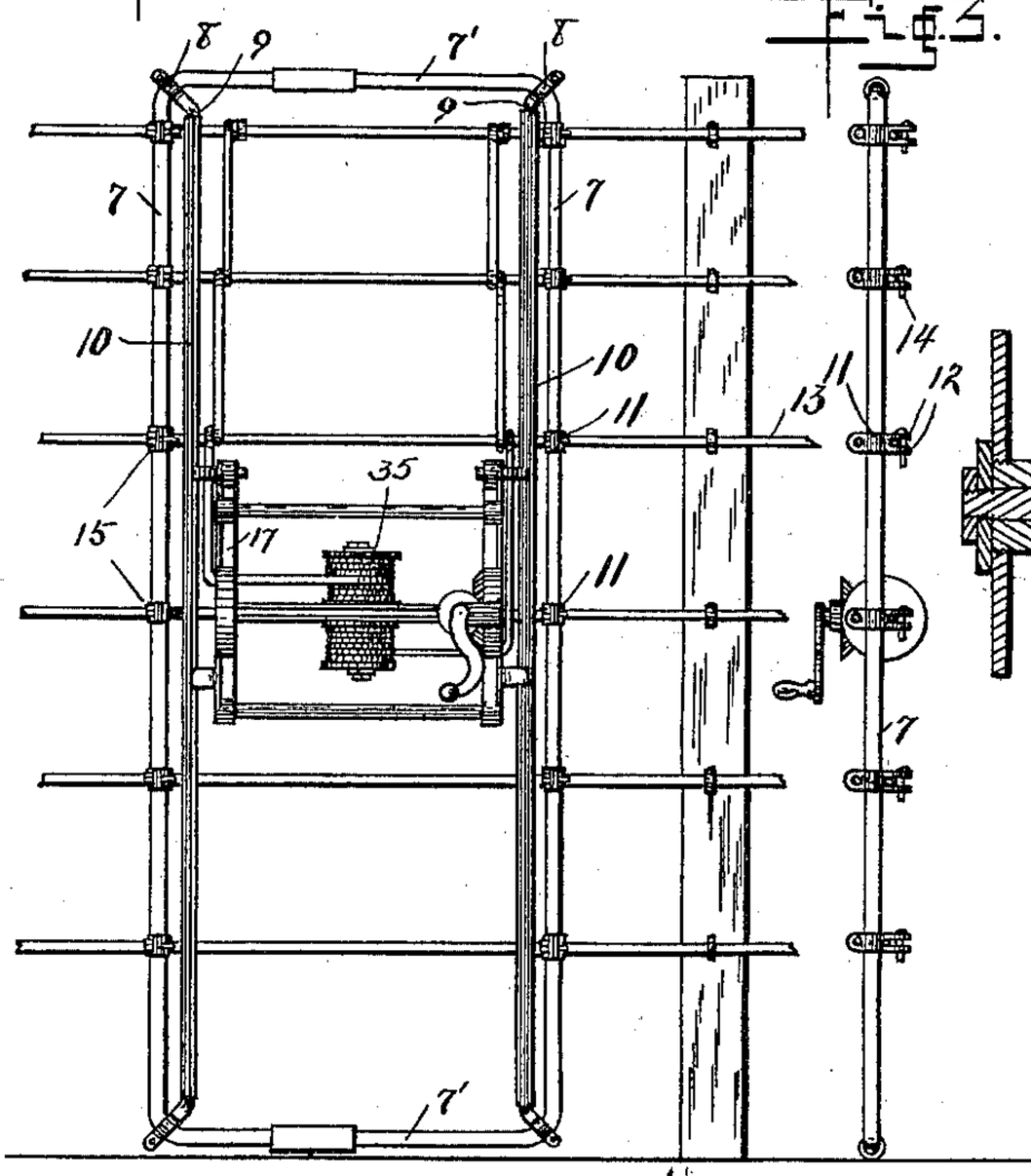


Fig. 3.

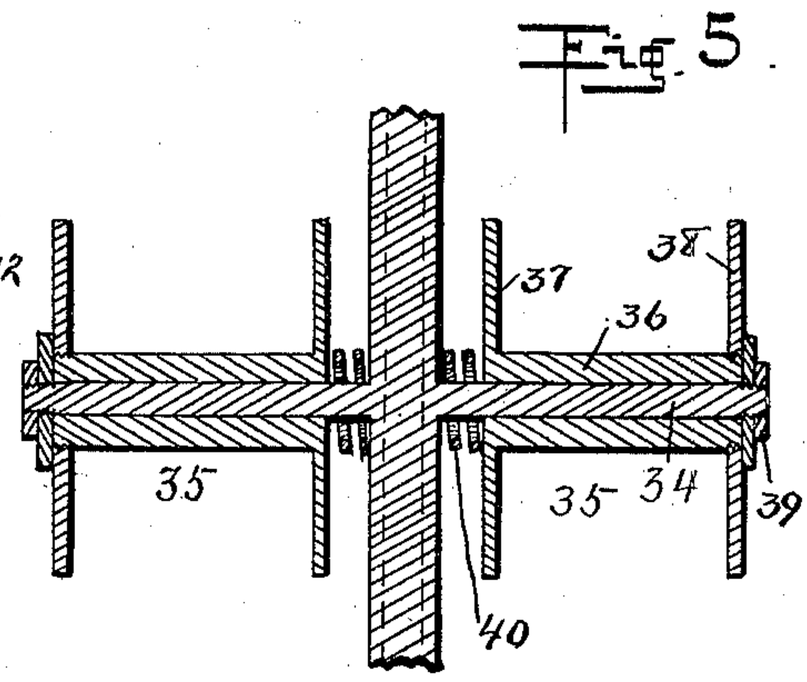


Fig. 5.

Fig. 4.

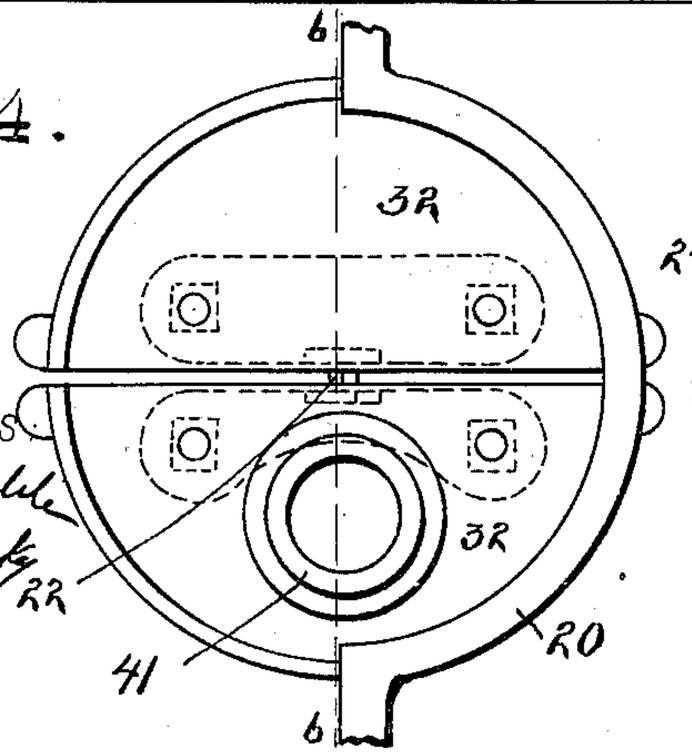
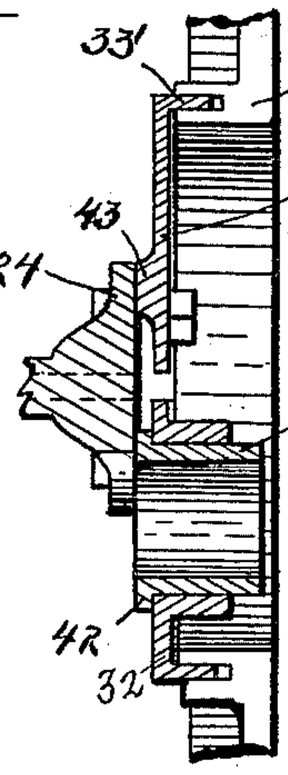


Fig. 6.



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WILLIAM J. JACOBS, OF BARGERSVILLE, INDIANA, ASSIGNOR TO PARMENAS C. JACOBS, OF IRVINGTON, INDIANA.

DEVICE FOR ATTACHING STAY-WIRES TO WIRE FENCES.

SPECIFICATION forming part of Letters Patent No. 627,191, dated June 20, 1899.

Application filed October 21, 1898. Serial No. 694,187. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. JACOBS, a citizen of the United States, residing at Bargersville, in the county of Johnson and State of Indiana, have invented a new and useful Fence-Machine, of which the following is a specification.

My invention relates to an improvement in machines for making wire fences or for attaching stay-wires to the runners of wire fences.

The object of my invention is to improve the form of loom and loom-frame shown in Letters Patent Nos. 555,914 and 590,042, issued to me March 3, 1896, and September 14, 1897, respectively.

In the machine shown in last-mentioned patent the fence-runner may be received in either pair of four radial slots formed in the heads of the bobbin-carrier and the bobbin-carrier rotated about said runner. In this machine the radial slots in each head extend toward each other as near to the center as possible; but owing to the construction shown therein neither slot could come exactly to the center of rotation, and therefore owing to the eccentricity of rotation of the bobbin-carrier about the runner the machine was somewhat difficult of operation, especially in the hands of a novice.

The particular object of my invention is therefore to so form the bobbin-carrier that the fence-runner may be received at the ends of said carrier at the exact center of rotation, it being also possible to insert said runner from opposite sides of the carrier, as in previous devices.

Further objects of my invention are to provide an improved form of bearing through which the stay-wires may be passed and by which they may be guided, to provide an improved form of bobbin, to provide an improved form of loom-frame, and to provide such details of construction as shall be pointed out.

The accompanying drawings illustrate my invention.

Figure 1 is a perspective view of the loom. Fig. 2 is a side elevation thereof, together with the loom-frame upon a section of fence. Fig. 3 is an end elevation thereof. Fig. 4 is an enlarged end elevation of the bobbin-carrier and the adjacent portion of the loom. Fig. 5 is an enlarged section through the center of the bobbins. Fig. 6 is a section on line 6 6 of Fig. 4.

In the drawings, 7 7 indicate the sides of a rectangular loom-frame, and 7′ 7′ indicate the ends thereof. Secured to each corner of the frame thus formed is a clamp 8, which encircles the frame member. Each clamp 8 is provided with a finger 9, which is adapted to be inserted into the ends of pipe-sections 10 10, which are thus supported in the frame parallel with and a short distance from the sides 7. Mounted upon one of the sides 7 is a series of clamps 11, each of which embraces and may be longitudinally adjusted upon the said side. Each of these clamps is provided with a pair of projecting fingers 12 12, between which the fence-runner 13 may be received. The runners are retained between the fingers 12 by means of a pin 14, which passes through perforations formed through the outer ends of the fingers. Upon the other side 7 is secured a similar series of adjustable clamps 15. The fingers of these clamps, however, merely rest upon the runners, and, if desired, they may be formed with but one finger each.

The loom proper consists of the sides 16 and 17, which are rigidly connected by the bars 18. Side 16 is provided at its middle with a semi-annular portion 19, and side 17 is provided with a similar portion 20. The portions 19 and 20 are provided on their inner faces with a semi-annular groove. The bobbin-carrier consists of an arm or bar 21, which consists of a thin central web 22 and strengthening-ribs 23 along each side, the space between the ribs being greater than the diameter of the runners 13. Formed at each end of bar 20 is a pair of feet 24. Secured to one pair of feet 24 is a pair of almost semicircular plates 25 25, which together form a circular head, through the center of which runs a continuous diametrical slot 26. Upon the outer face of each plate 25 is formed a semi-

annular flange, (not shown,) which when the plates are properly placed form an almost complete annular rib, which runs within the semi-annular groove of the portion 19 of side 16. Upon the inside faces of these plates is formed a bevel-gear 28, which is adapted to mesh with and be driven by a bevel-gear 29, the shaft of which is mounted in suitable bearings formed in an arm 30, carried by the side 16. Secured to the outer end of the shaft of gear 29 is a suitable crank 31, by which it may be rotated. Upon the opposite end of the bar 21 is secured a similar pair of plates 32, which are so secured to the feet 24 as to leave a continuous diametrical slot 33 extending across the head thus formed. Upon the outside of these plates are semi-annular ribs 33', which run within the semi-annular groove formed in the portion 20 of the side 17. As previously stated, the central web 22 of the bar 21 is thin; but in order that the fence-runner may lie exactly in the center of the two heads of the bobbin-carrier the ends of said web are beveled down to the medial line. By this means the runner after having been introduced into either end of the slots 26 and 33 may be brought to the exact center of the heads of the bobbin-carrier, while between those heads the runner is but slightly deflected, so that the bobbin-carrier will thus rotate centrally about the runner.

Secured to or formed integral with the bar 21 at about its middle are two oppositely-extending pins 34, upon each of which is rotatably mounted a suitable bobbin 35, adapted to carry a length of the stay or cross wire. For convenience I prefer to make these bobbins in the following manner: The central hub 36 and one flange 37 are preferably formed in one piece and the free end of the hub is threaded. Upon this threaded end is removably screwed the other flange 38. The bobbin thus formed is held in place upon the pin 34 by means of a suitable nut 39. If desired, the tension of the bobbin may be regulated by means of the spring 40 in the usual well-known manner. The bobbins are made in this manner in order that by removing the flange 38 a new supply of stay-wire, previously coiled either by the user or in the factory, may be slipped into place. This is much more convenient than carrying a large number of independent bobbins into the field, as has heretofore been necessary.

For the purpose of forming a guide for the stay-wire, so that it may be twisted about the runner, one of the plates 32 is perforated, and rotatably mounted in this perforation is a bushing 41, through which the stay-wire from one of the bobbins may be passed. The bushing 41 is provided at its inner end with a flange 42, which lies between the plate and the adjacent foot 24 of the bar 21, the said foot being held a short distance from the plate by means of the boss 43. The bushing is thus free to rotate upon an axis parallel with the axis of rotation of the bobbin-carrier and at the same time is retained in position in the plate 32. One of the plates 25 is also perforated in the same manner and a similar bushing mounted therein. The freedom of rotation of the bushings will prevent the stay-wire from cutting deep grooves therein.

The upper end of each of the sides 16 and 17 is provided with an eye 45, in which is pivotally mounted the stem 46 of a yoke 47. The yokes 47 are adapted to receive the pipe sections or guides 10, the said sections 10 thus forming guides between which the loom may be moved up and down in the usual manner. It will be noticed that with this construction the loom-guides are free from runner-guides and that the runner-guides—*i. e.*, the fingers of the clamps which are secured to the sides of the loom-frame—may be easily and quickly adjusted to suit the spacing of the runners of any fence.

I claim as my invention—

1. In a fence-machine, a loom therefor consisting of a pair of heads each of which is provided with a continuous diametrical slot, connections between said heads whereby they may be rotated together, wire-carriers mounted between said heads and rotatable therewith, and means carried by each head through which the wire from the wire-carriers may be passed.

2. In a fence-machine, a loom therefor consisting of a central bar, a pair of heads carried one at each end of said bar, each of said heads consisting of a pair of plates so secured to the bar that a continuous diametrical slot will extend across the head thus formed, wire-carriers mounted between said heads and rotatable therewith, and means carried by each head through which the wire from the wire-carriers may be passed.

3. In a fence-machine loom, the combination with the rotatable head thereof, of a wire-guide consisting of a bushing rotatably mounted in and extending through said head upon an axis parallel with the axis of rotation of the head.

4. In a fence-machine, a loom therefor consisting of a central bar, a pair of heads carried one at each end of said bar, each of said heads consisting of a pair of plates so secured to the bar that a continuous diametrical slot will extend across the head thus formed, a bushing, rotatable about an axis parallel with the axis of rotation of the head, mounted in each head, each of said bushings being provided, at its inner end, with a flange which lies between the head and the end of the bar, a pair of bobbins mounted upon said bar upon axes at right angles to said bar, and means for rotating the loom.

5. A loom-frame for fence-machines, consisting of a substantially rectangular frame, runner-guides adjustably secured to the sides

of said frame, and supplemental loom-guides 10, 10 mounted in said frame, substantially as described.

6. A loom-frame for fence-machines, consisting of a substantially rectangular frame, clamps 8 mounted one at each corner of said frame and each carrying a finger 9, supplemental loom-guides 10, 10 mounted between each pair of clamps and engaged by the fingers thereof, and runner-guides carried by the sides of the frame, substantially as described.

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