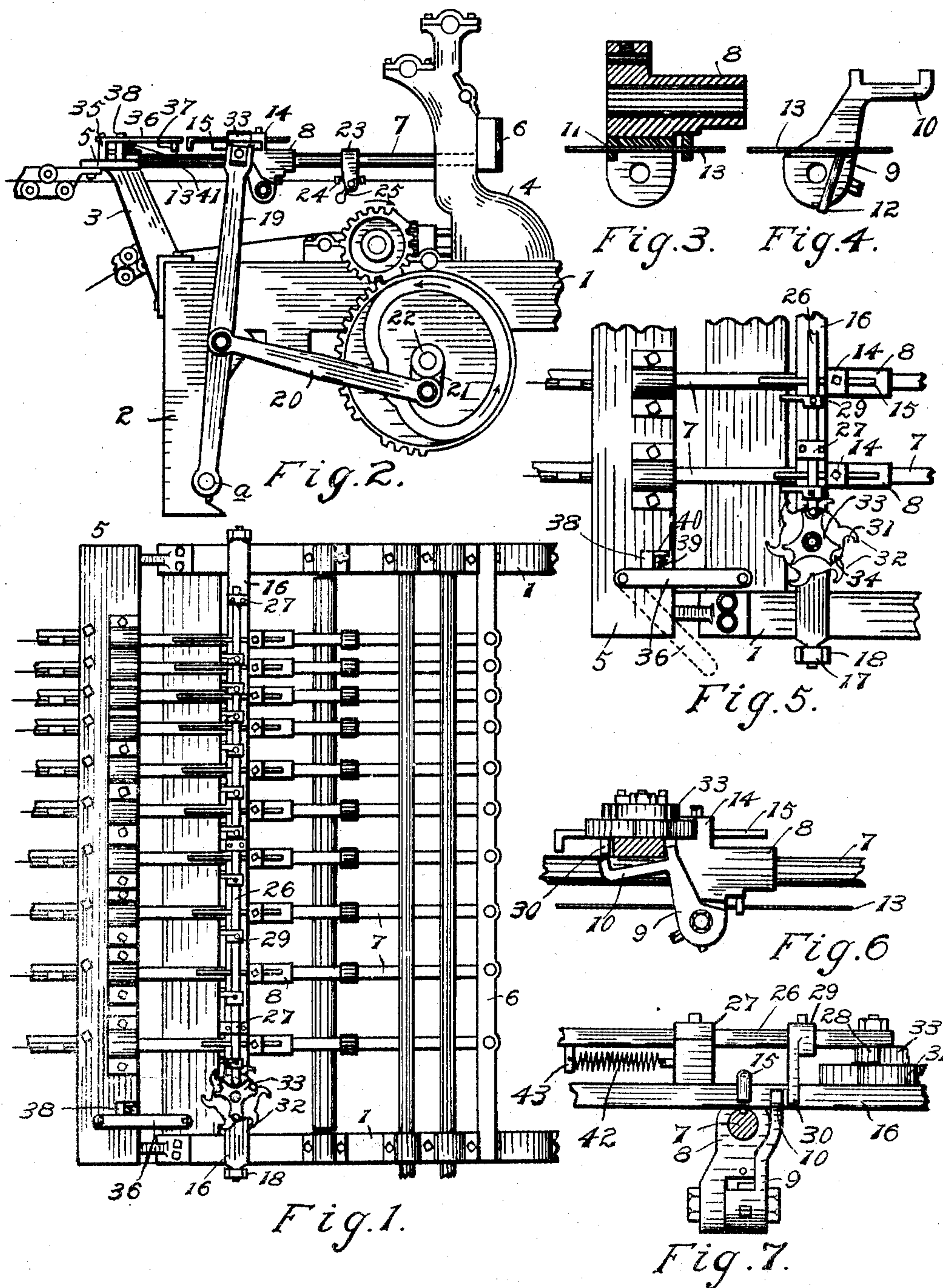


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PATENTED MAR. 7, 1905.

P. FRANTZ.
WIRE FENCE MACHINE.
APPLICATION FILED APR. 22, 1904.



WITNESSES:

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WIRE-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 784,209, dated March 7, 1905.

Application filed April 22, 1904. Serial No. 204,384.

To all whom it may concern:

Be it known that I, PETER FRANTZ, a citizen of the United States, residing at Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Wire-Fence Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention has reference to wire-fence machines, and is particularly adapted for use in connection with the machine on which Letters Patent of the United States No. 739,846 were issued to me September 29, 1903. In the construction of a square-mesh fence, such as is produced by said patented machine, it is sometimes desired to omit every alternate stay-wire or series of stay-wires, and my present invention is designed to accomplish this result. The devices by which this is performed have reference merely to those parts of the machine which operate to feed into the machine the wires from which the transverse or stay wires are produced, and the drawings and specification herein show and describe only so much of the original machine as relate to the one function above named, the parts thereof being designated, however, by different ordinals than those made use of in the former patent.

In the drawings, Figure 1 is a plan view of that part of the machine embodying my invention. Fig. 2 is a side elevation thereof. Figs. 3 and 4 are enlarged details showing the wire-gripping mechanism. Fig. 5 is a detail plan view showing the operating parts of my device. Fig. 6 is a similar view in side elevation. Fig. 7 is an enlarged detail showing parts of my device in rear elevation.

Similar numbers refer to similar parts throughout the several views.

1 represents the frame of the machine, supported on legs 2, (only one of which is shown.) At the rear end of the machine is secured a pair of rearwardly-extending brackets 3, and about midway the ends of the frame 1 is se-

cured thereon a pair of supports 4, (one only shown.) Supported on the brackets 3 is a cross-plate 5, and fixed to the supports 4 is a cross-beam 6.

Secured at one end on the cross-plate 5 and at the other end in the cross-beam 6 is a series of horizontal parallel bars 7, cylindrical in form. Upon each of the bars 7 is suitably mounted a carrier 8, so as to reciprocate longitudinally thereon. Pivotally supported by each carrier 8 is a gripping-jaw 9, projected upwardly in the form of a rack 10. On the lower face of the carrier 8 is fixed a grip-bar 11, and secured in the jaw 9 is a gripping-pin 12, adapted to engage the wire 13 to hold it against the bar 11.

On the upper face of the carrier 8 is a support 14, secured in a perforation in which is a rod 15, having its rear end turned downwardly at a right angle thereto.

A cross-bar 16 is adapted to oscillate or reciprocate on the bars 7, longitudinally thereof. The bar 16 is loosely held at each end in blocks 17, (one of which is shown in Fig. 5,) such blocks having vertical play in forks 18 on a pair of arms 19, fulcrumed on the legs 2, as at *a*. In Fig. 2 is illustrated the means for imparting movement to the arm 19, comprising the pitman 20, secured at one end to the arm 19 and at the other end to a crank 21 on the end of a shaft 22, which is suitably rotated in connection with the operation of the machine. The arm 19, pitman 20, and crank 21 are duplicated on the other side of the machine, but are not shown in the drawings herein.

Fixed on each of the bars 7 is a support 23, carrying a grip-bar 24 and weighted gripping-pin 25.

So far as they are hereinbefore described the parts are the same as in the former machine referred to, and the operation thereof is briefly as follows: At each rotation of the shaft 22 the arms 19 are given a complete forward-and-backward movement, causing the bar 16 to similarly oscillate. In its forward movement the bar 16 comes in contact with the carriers 8 and forces them simultaneously forward upon the bars 7. Before engaging the carriers, however, the cross-bar 16 engages the racks

10, actuating the gripping-pins 12 and causing the gripping of the wires 13. By this means as the carriers are moved forward they carry with them the wires 13, which are afterward cut into stay-wires and secured on the strand-wires of the fence. At the commencement of the return stroke the racks 10 drop downwardly a slight distance, releasing the gripping mechanism and permitting the return of the carriers 8 to their rearward position without carrying with them the wires 13, which are held from rearward movement by the pin 25 and bar 24. The rearward movement of the carriers 8 is accomplished by the bar 16 coming in contact with the bent portions of the rods 15.

By the above-described means each oscillation of the bar 16 will introduce into the machine a series of wires 13 a sufficient distance to permit the forming therefrom of a series of the transverse wires of the fence.

The mechanism which is the special subject of this application can be readily attached to the parts hereinbefore described and comprises the following devices, reference being had more particularly to Figs. 5 to 7, inclusive: A reciprocating bar 26 is supported on the upper side of the cross-bar 16 by means of two or more supports 27. The bar 26 is provided at one end with a roller 28, and secured to such bar at predetermined intervals is a series of clips 29, projected downwardly into fingers 30 equal in number to the wires 13. Rotatably secured on the bar 16, near one end thereof, is a spur-wheel 31, having a series of equidistant spurs 32, preferably six in number. On the upper face of the wheel 31 and integral therewith is a cam 33 of modified-clover-leaf pattern, the apex of each leaf being provided with a recess 34. Secured on the upper face of the cross-plate 5 is a pivotal support 35, Fig. 2, projecting forwardly from which is an arm 36, having at its free end a downwardly-extending pin 37. On the inner side of the arm 36 is secured on the cross-plate 5 a stop 38, which limits the inward movement of such arm. A contractile coiled spring 39 is secured at one end to a pin 40 on the stop 38 and at the other end to a pin 41 on the under face of the arm 36. By this means the arm 36 is permitted a slight amount of lateral play in an outward direction. The pin 37 is normally in position to engage one of the spurs 32 at each rearward movement of the bar 16, such movement being continued until the wheel 33 is given a one-sixth revolution. As the bar 16 again moves forward the pin 37 slides past the next succeeding spur 32, the arm 36 moving outward slightly to permit the same. The roller 28 is at all times in contact with the cam 33, the rotation of the wheel 31 causing such roller to be alternately engaged by one of the recesses 34 and the next succeeding concave face of the cam. By this means the bar 26 is caused to reciprocate longitudi-

nally of the bar 16. The contact of the roller 28 and cam 33 is insured by means of a contractile coiled spring 42, secured at one end to one of the supports 27 and at the other end to a post 43, depending from the bar 26. The position of the fingers 30 on the bar 26 is such that when the roller 28 is in engagement with one of the recesses 34 each of the racks 10 has one of such fingers immediately above the rear end thereof, so as to prevent the upward movement of such rack. (See Fig. 6.) As a result the bar 15 in its forward movement carries with it the carriers 8 without the coincident operation of the gripping mechanism, so that there is no forward movement of the wires 13. In the return movement of the bar 16 the cam 33 is given another one-sixth rotation and the bar 26 oscillated sufficiently to move the fingers 30 out of line with the racks 10, so that upon the next succeeding forward movement of the bar 16 the gripping mechanism will be put in operation and the wires 13 fed into the machine. Each movement of the bar 16 corresponds to a movement of the strand-wires into the machine, so that if the gripping mechanism is operated only at each alternate movement of the bar 16 there will be two movements of the strand-wire to one of the wires 13, resulting in the intervals between the series of stay-wires in the completed fence being twice as long as when the movements of the wires 13 correspond in number with those of the strand-wires.

It will be seen that by adjustment of any of the clips 29 the operation of the above mechanism can be independently applied to any one or more of the racks 10.

My device can be rendered inoperative by releasing the spring 39 and turning the arm 36 to one side, as shown in dotted lines in Fig. 5. Before this is done, however, the cam 33 must be in position to hold the fingers 30 out of engagement with the racks 10.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. In a machine of the class named, where-in the feed mechanism for the stay-wires is operated by means of a transverse oscillating bar coming in contact with a series of racks, a reciprocating bar supported on such oscillating bar, and adapted to reciprocate longitudinally thereof; a series of fingers, secured on said reciprocating bar; and means for suitably reciprocating said last-named bar, to bring said fingers alternately in and out of register with said series of racks at each successive operation of the feed mechanism, substantially as shown.

2. In a machine of the class named where-in the feed mechanism is operated by means of a transverse oscillating bar coming in contact with a series of racks, a reciprocating bar 26, located on said oscillating bar, so as to reciprocate thereon, and having a series of

fingers 30; the spur-wheel 31, also secured on said oscillating bar, and provided on its upper face with the cam 33, in engagement with the end of the bar 26; and means for suitably operating the wheel 31, substantially as set forth.

3. In a machine of the class named the combination of the suitably-mounted bar 26, provided with fingers 30; the wheel 31, having the cam 33 on its upper face, engaging the end of the bar 26, and the arm 36, provided with the pin 37 adapted to engage and operate the wheel 31, substantially as described.

4. In a machine of the class named, the combination of the oscillating bar 16, the suitably-mounted racks 10, operated thereby; the bar

26, suitably supported upon the bar 16, so as to oscillate thereon; and provided with a series of fingers 30, the wheel 31, rotatably mounted on the bar 16, and provided with the cam 33, engaging the bar 26; and the suitably-mounted arm 36, provided with the pin 37, adapted to operate the wheel 31 upon the oscillation of the bar 16, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

PETER FRANTZ.

Witnesses:

CHAS. H. WOODBURN,
G. J. BOWMAN.