No. 610,006. Patented Aug. 30, 1898.

J. H. WALKER.

FENCE MACHINE.

(Application filed Feb. 21, 1898.)

(No Model.)

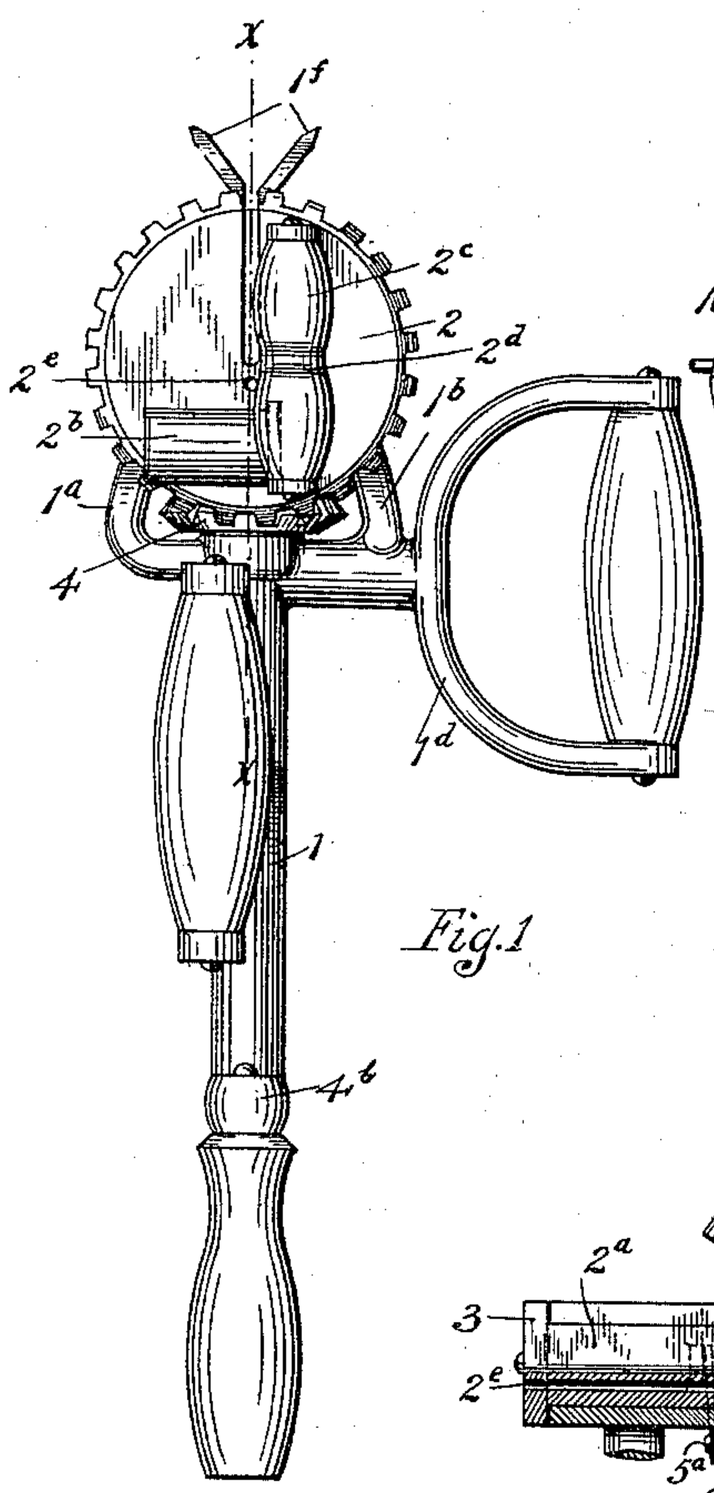

Fig. 1

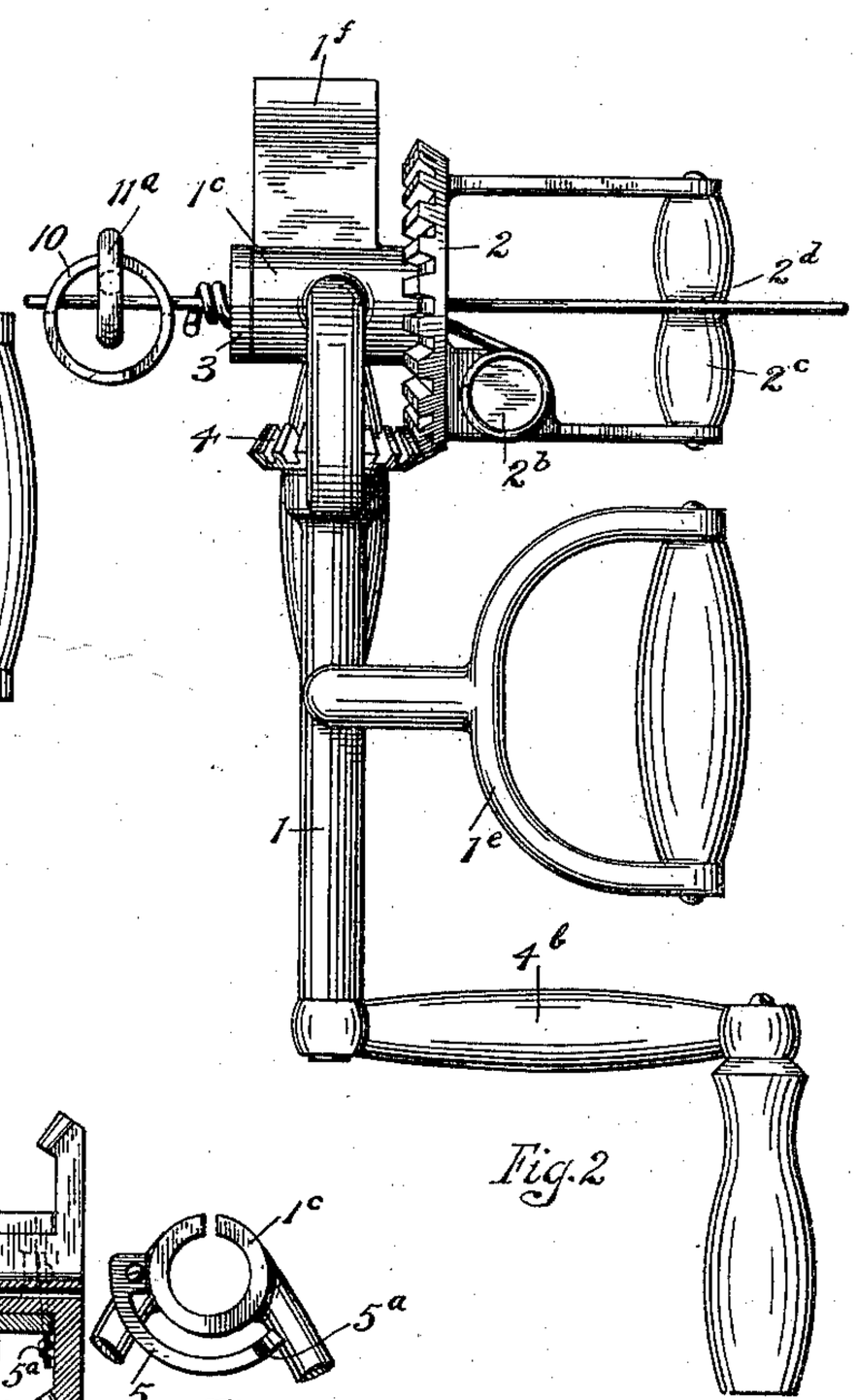

Fig. 2

Fig. 4

Fig. 5

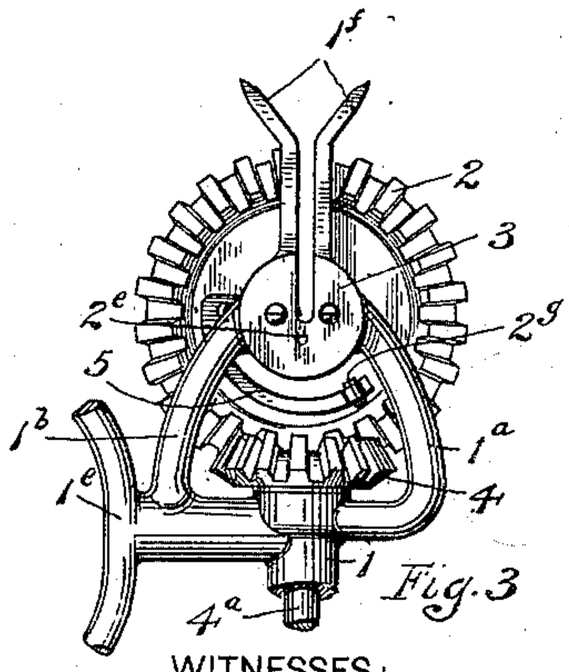

Fig. 3

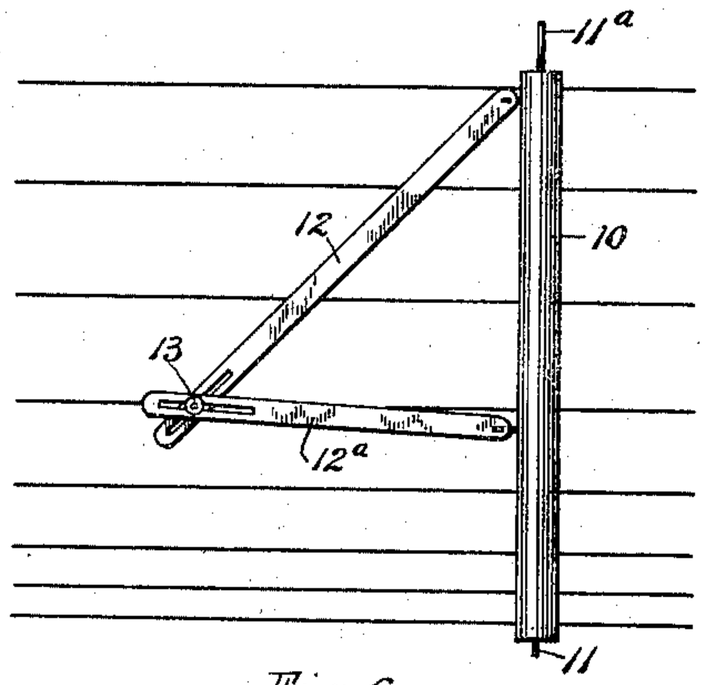

Fig. 6

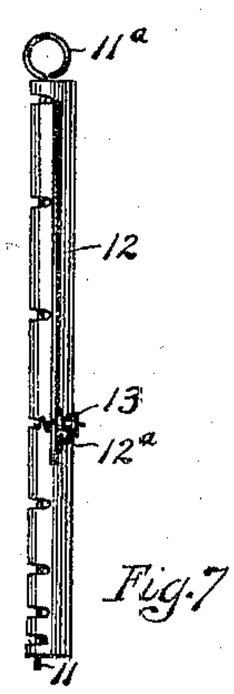

Fig. 7

WITNESSES:

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JAMES H. WALKER, OF PLAIN CITY, OHIO.

FENCE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 610,006, dated August 30, 1898.

Application filed February 21, 1898. Serial No. 671,119. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. WALKER, a citizen of the United States, residing at Plain City, in the county of Madison and State of Ohio, have invented certain new and useful Improvements in Fence-Machines; and I do hereby 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.

My invention relates generally to fence-machines, but has for its object to provide a machine to be operated by hand for putting on vertical stays of wire; and the invention consists in the improvements hereinafter set forth and claimed whereby such a machine is manipulated with more speed and with less labor than has heretofore been required in such machines and whereby a stouter wire may be used for the stays.

My invention also embraces for use in connection with such machines an improved device for properly maintaining the parallelism or spacing of the wires while the stays are being put on.

In the annexed drawings, showing an embodiment of my improvements, Figure 1 is a side elevation of the right hand or spool side of the machine. Fig. 2 is a side elevation of Fig. 1 as seen from the left. Fig. 3 is a side elevation of the left-hand side of the machine, portions of the frame being broken away. Fig. 4 is a sectional view of the twisting-wheel, taken in the line *x x* of Fig. 1. Fig. 5 is a detail showing the twisting-wheel bearing, with a device for latching the twisting-wheel. Fig. 6 is a front view of the spacer, and Fig. 7 is a side view of the same.

Like characters of reference in the several views designate corresponding parts.

The frame of the machine comprises the tubular shank portion 1, arched portions 1^a and 1^b, a bearing 1^c for the twisting-wheel, a portion 1^d to receive a dependent handle, and a portion 1^e to receive a laterally-extending handle, and flared guiding-tongues 1^f, all preferably, but not necessarily, formed in one casting of metal.

2 designates the twisting-wheel, having on its inner side a hub 2^a to fit in the bore of the bearing 1^c, to which it is secured (but so as to turn freely) by means of a washer 3. The entire side of the twisting-wheel has a wire-holder 2^b and a handle 2^c. The twisting-wheel, as well as its hub and the bearing and washer, are all slotted so that the device may be placed on a horizontal strand of fence-wire, and when so placed said wire shall extend along the axes of said parts, and the handle 2^c may also be grooved, as indicated at 2^d, so that its groove shall be in line to receive the horizontal strand-wire, and the bulge of the handle assists in holding and bracing said wire while the vertical stay-wire is being twisted upon said horizontal wire. The twisting-wheel, its hub, and the securing-washer are made with a hole, as shown at 2^e, eccentric of the axes of those parts, but lying substantially parallel thereto, through which the stay-wire passes from the coil on the holder to the opposite side, where it is to be twisted, as indicated in Fig. 2. The twisting-wheel is furnished with beveled gear-teeth that are engaged and operated by a beveled pinion 4, fixed on the end of a shaft 4^a, that turns in the tubular shank portion 1 of the frame, and the front or outer end of this shaft has fixed thereon a handled crank 4^b, by which said shaft may be turned.

In order that the slots in the twisting-wheel, its hub, and the securing-washer may be yieldingly held in line with the opening between the guiding-tongues 1^f, so that the machine may be readily placed upon the horizontal strand-wire, there is shown to be attached to bearing 1^c a curved spring 5, having at its free end a bend 5^a to form a recess that fits over a projection or tooth 2^g on the inner side of the twisting-wheel. This spring and tooth are so placed with respect to each other that the bend in the spring engages the tooth when the slot in the twisting-wheel coincides with the opening between the guiding-tongues 1^f, and said wheel is yieldingly latched in that position. The operator will be able to know from the "click" of the latching-spring when the slots coincide. As a further aid to this knowledge the cranked handle 4^b may be so fixed to its shaft that it stands in a horizontal position to the right when the slots coincide, thus expediting the placing of the machine on its removal from the horizontal wire.

In operation the cranked handle is turned to the right, thus turning the twisting-wheel

and carrying the stay-wire from the coil on the wire-holder as many times as may be desired about the horizontal strand-wire of the fence, and in proceeding from one of such horizontal wires to the next below the whole machine is turned to the left one-quarter way around, so that the axis of the twisting-wheel, and consequently the stay-wire coming from the spool, shall stand substantially at right angles to the said horizontal wire, and in this position the machine is most easily pulled down to the next horizontal wire. As the handle on the twisting-wheel is near and almost in a direct line with the direction of the pull, said handle greatly facilitates the operation of the machine. The handle on the side of the tubular portion 1 may also be grasped to steady the machine and used as an aid in the pull. The dependent handle at the under side of the machine is taken in the left hand to steady the machine when the stay-wire is being twisted.

The apparatus that I have invented for maintaining the parallelism of the horizontal fence-strands while the vertical stay-wires are being put on, and which is ordinarily called a "spacer," consists of a hollow bar 10, notched out in its side at the proper points for the reception of the horizontal fence-strands, and when these strands are in their places a rod 11 is to be inserted longitudinally in the hollow bar between the said horizontal strands and the mouths of the notches, so that said bar shall be locked from lateral displacement but be free to move horizontally along the fence as the work of putting on vertical stays progresses. The upper end of the rod is provided with a handle 11^a, that permits the manipulation of the rod for insertion or removal and at the same time affords a stop to prevent the rod from falling through the bar or tube 10. In addition to these parts there are shown bars 12 and 12^a, that are pivoted to the sides of the hollow bar, said bars 12 and 12^a being slotted at their outer ends and fastened together with a set-screw and nut 13 to lock them when properly adjusted. The end of said set-screw may have a hook or other device to engage one of the horizontal fence-strands. The function of the bars is to hold the spacer as it is moved along in a uniform position with respect to the horizontal strands, whether the fence is being constructed upon a level or an inclined surface, thereby insuring the parallelism of the horizontal strands, and while it serves this function it incidentally serves to brace the horizontal fence-wires during the stay-twisting operation.

What I claim, and desire to secure by Letters Patent, is—

1. In a fence-machine, a stay-wire-twisting wheel having a slot, a stay-wire-coil holder on one side of the said wheel, a hole for the passage of the wire from the coil to the opposite side of said wheel, and a handle on the spool side of said wheel whereby the stay-wire passing through the wheel may be brought to stand at right angles to the horizontal fence-wire, substantially as described.

2. In a fence-machine, a stay-wire-twisting wheel having a slot, and a stay-wire-coil holder on one side of said wheel, a hole for the passage of the wire from the coil to the opposite side of the wheel, and a handle on said wheel whereby the stay-wire passing through the wheel may be brought to stand at right angles to the horizontal fence-wire, said handle being also constructed to engage said horizontal wire in the twisting position of the wheel to steady the machine, substantially as set forth.

3. In a fence-machine, a stay-wire-twisting wheel having a slot, a frame having a bearing for said wheel, and a latch consisting of a spring-arm 5 having a bent portion 5^a, said spring-arm being attached to the bearing of said wheel, and a projection having inclined surfaces on the side of the wheel adjacent the spring-arm engaged by the bent portion 5^a of said arm, whereby said wheel is yieldingly held against rotation, the release of said wheel being effected by the forcible rotation of the wheel alone, substantially as shown and described.

4. In devices for constructing a fence of the kind described, a spacer for the horizontal wires consisting of a hollow bar or tube notched at intervals to allow said bar or tube to be placed on the horizontal wires, and a rod to be placed in said bar or tube between the wires and the inner wall of said tube to prevent the removal laterally of said spacer, substantially as described.

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

JAMES H. WALKER.

Witnesses:
GEORGE M. FINCKEL,
G. W. ALFRED.