(No Model.)

W. C. BÖING.

MACHINE FOR APPLYING STAY WIRES TO WIRE FENCES.

No. 433,195. Patented July 29, 1890.

Fig. 1.

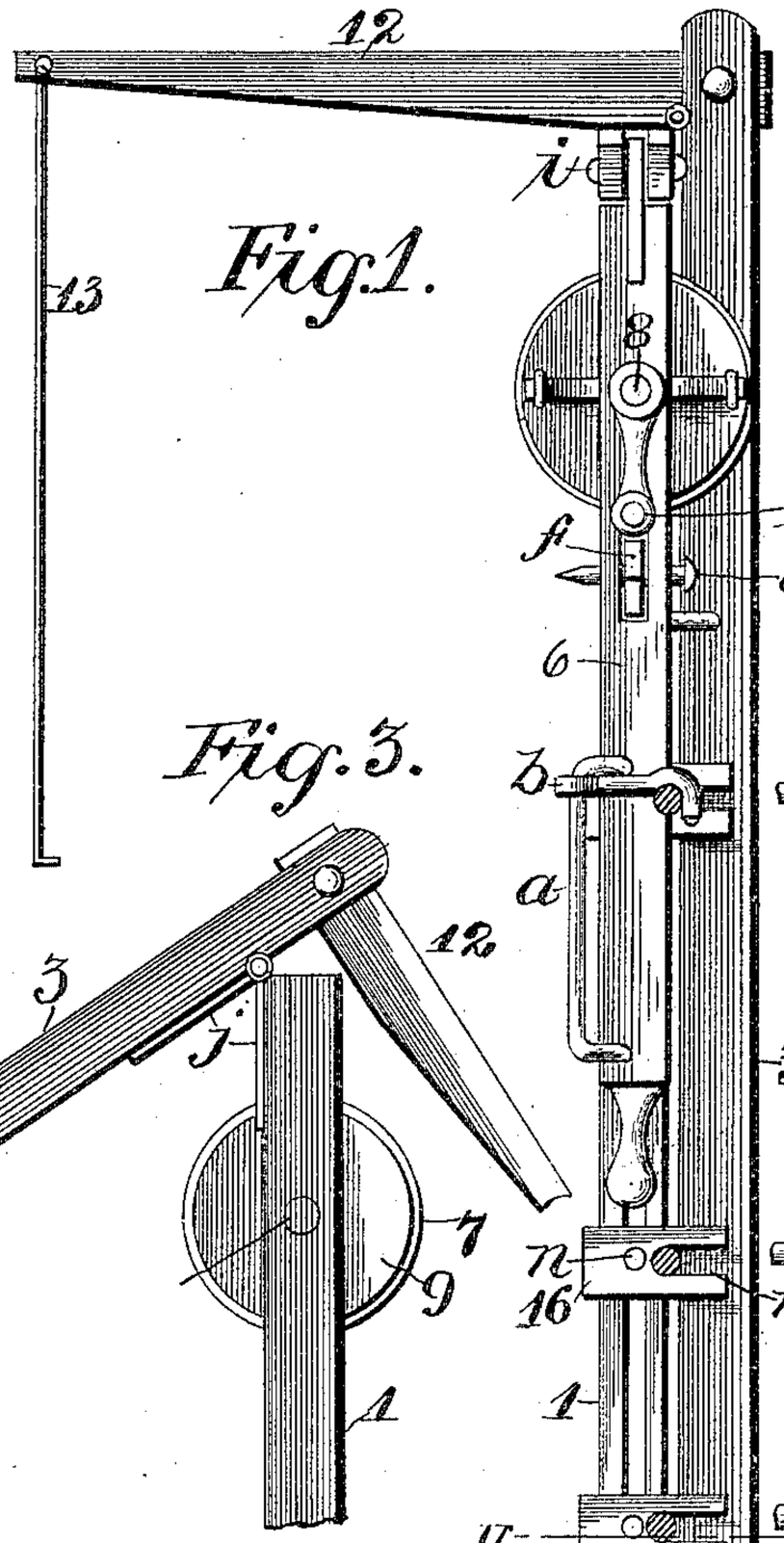


Fig. 2.

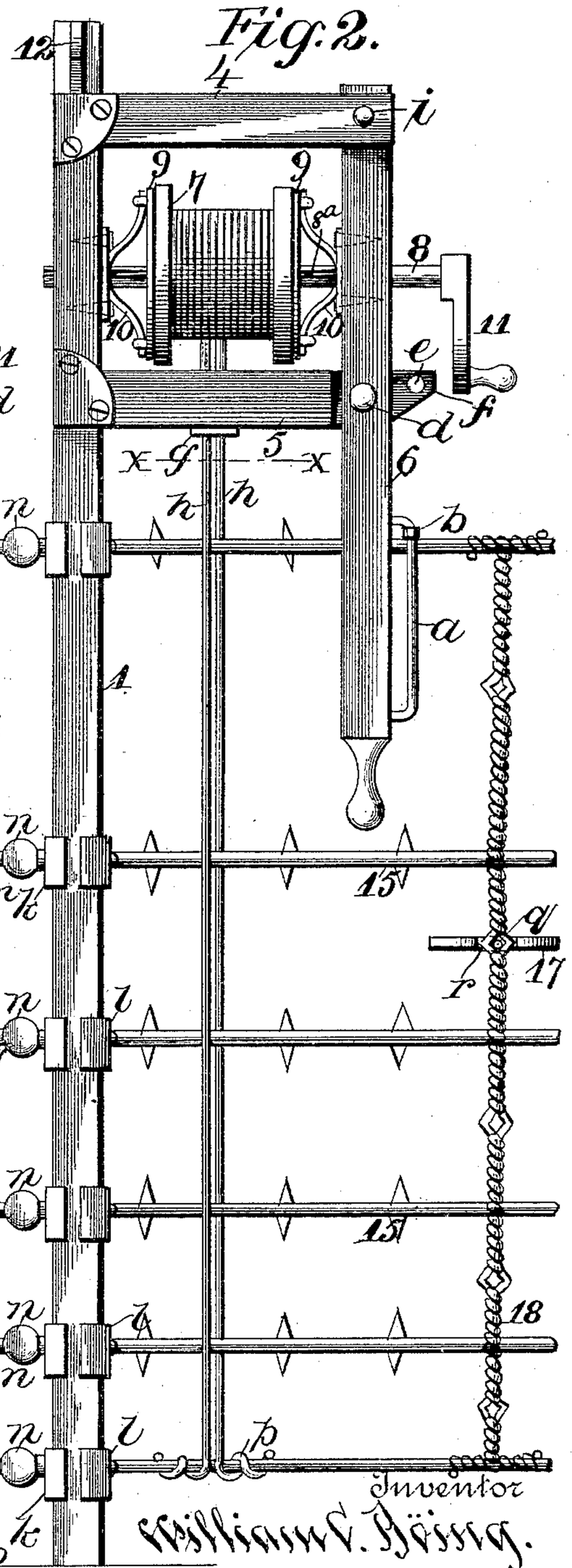


Fig. 3.

Fig. 4.

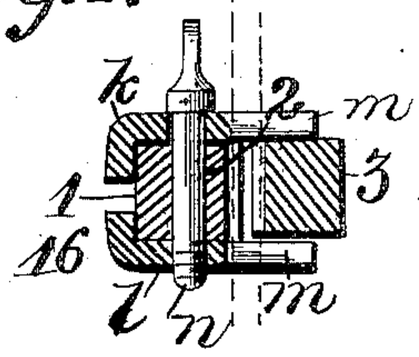
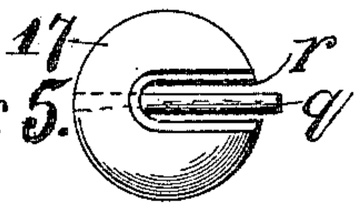


Fig. 5.



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MACHINE FOR APPLYING STAY-WIRES TO WIRE FENCES.

SPECIFICATION forming part of Letters Patent No. 433,195, dated July 29, 1890.

Application filed April 28, 1890. Serial No. 349,725. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. BÖING, of Hermann, in the county of Gasconade and State of Missouri, have invented certain new and useful Improvements in Machines for Applying Stay-Wires to Wire Fences, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to certain new and useful improvements in machines for stretching and holding stay-wires while the latter are being applied to fences; and it consists in the novel combination and arrangement of parts and their details, as will be hereinafter fully described, and pointed out in the appended claims.

In the drawings, Figure 1 is a side elevation of my invention in use upon a wire fence. Fig. 2 is a front view thereof. Fig. 3 is a side view, partly broken away, opposite to that of Fig. 1, and with the parts in a different adjustment. Fig. 4 is a cross-section taken on line *y y* of Fig. 1, and Fig. 5 is a plan view of a twister used in making up the device.

1 represents an upright support or standard having a longitudinal slot 2 formed therein, the purpose of which will be presently made clear.

3 is a leg, made movable with respect to the standard 1 and secured thereto at or near its upper end by means of a strap or other suitable hinge *j*, and to the said leg at its upper end is rigidly attached an arm 12, projecting at a right angle, which is adapted to be drawn down by means of a depending rod or handle 13 when the machine is to be removed from one stay-wire to the place for another or from the fence entirely, and thereby releasing the machine from its normal position astride the wires of the fence. (See Fig. 3.)

4 is a horizontal support projecting from the standard 1 at or near the upper end thereof and at right angles thereto, but in a direction that is at right angles to the direction in which the arm 12 projects, and to the outer end of which arm 4 is pivoted, at its upper end, a hand-lever 6 by means of a pin *i* or other suitable means, and immediately below the arm 4 and projecting in like direction and affixed in like manner to said standard 1, a similar arm 5 is located, and its projecting outer end *f* is provided with one or more holes—such as *e*—through which a pin *d* is adapted to be removably inserted, and which pin passes through a hole in lever 6, which registers with the holes in *f* when said lever is in a closed position, as shown in Figs. 1 and 2, and locks the same in such closed position.

8 is a horizontal spool-shaft, removably mounted in the standard 1 and the hand-lever 6, so as to revolve, and upon which shaft a reel 7 is mounted. The reel is caused to revolve with the shaft by means of the spline 8^a cut therein, and the shaft itself may be drawn by an endwise movement out of the reel and out of its bearings in the standard and hand-lever. A double stay-wire, or rather two lines of wire *h h*, are carried by this reel. Loosely mounted on shaft 8, at each end of said spool, are two friction-disks 9 9, which are held from turning by means of flat springs 10 10, which are loosely fixed to said disks at their respective outer ends, but which are securely affixed against turning at about the middle of their length to said standard 1 and lever 6, respectively. To one end of shaft 8 is fitted a hand-crank 11 for turning the reel in stretching the stays. The reel is thus fitted with friction devices, whereby it is held from turning too readily, and these friction devices are adjusted by means of the hand-lever 6, which is pivoted at its upper end and adapted to approach or recede from the standard 1, in order to impart more or less friction to the reel, as becomes necessary. The reel may be termed a "spring-pressed" reel, also a "removable" reel. To the lower edge of the horizontal arm 5 is attached a suitable metallic guide *g*, which may be perforated or slotted for passage of the wires leading from the reel. An ⌐¬-shaped staple or slide-bar *a* has its ends attached to the outer side of the lever 6, and which slide carries a hook *b*, adapted to slide up and down thereon and be hooked over the upper wire of the fence to prevent twisting of the machine during operation. Within the slot 2 of the standard 1 and adapted to be adjusted up and down therein to suit the different spaces apart of the fence-wires are located a series of thumb-screws *n*, which carry on their opposite ends clamping-plates *k* and *l*, the

whole forming a series of clamps 16, the plates of which have a projecting and forked end *m*, in the fork of which the wires of the fence 15 are held at a predetermined distance apart. (See Fig. 4.) These clamps 16 are held in the desired position on the standard by means of the screws *n*, said screws binding the plates of which they are composed firmly against the opposite sides of the standard.

14 is a latch pivoted to the lower end of the standard and provided with a notch in its free end which catches over a pin *o*, projecting in its path and mounted on the like end of the leg 3 of the machine, which, when in a locked position, as shown, clamps the fence-wires 15 tightly between said support and said leg, holding the machine firmly in an upright position on said wires.

17 is a twister, consisting of a disk slotted at one side, forming a slot *r* therein, and within said slot a prong *q* is secured and projects outwardly a short distance beyond the periphery of the disk. This prong is to be inserted between the two wires *h h* and the disk turned in a horizontal plane until the stay is sufficiently twisted.

In operation the fence-wires 15 are first stretched from post to post in any desired manner, and then the machine is to be clamped in position on said wires and the clamps 16 brought to position with their forked ends engaging said wires and holding same at the required distance apart, which wires would otherwise sag into irregular spacing during the operation of applying the stays *h h* thereto. The stay-wires *h h* are drawn from the reel and passed down, one on each side of the fence-wires, and their ends are then twisted at *p* to the bottom fence-wire, after which they are drawn tight by means of the hand-crank 11, and are automatically held taut by the friction devices of the reel before described. The twister 17 is then to be made use of, the prong *q* of which is inserted between the wires *h h* and the disk turned until said wires are sufficiently twisted to form a double twist 18 between each adjacent fence-wire. The wires *h h* are then to be cut on line *x x*, Fig. 2, (or thereabout,) and the upper ends of the stay twisted around the upper fence-wire. When the machine is to be moved to another panel or fence, the latch 14 is raised, and by pulling on the handle 13 the leg 3 will be opened away from the fence-wires and the standard, and the machine may be removed, as before indicated.

Having thus described my invention, what I claim is—

1. The combination of a suitable supporting-frame and a frictionally-operated reel made removable from said supporting-frame, and a hand-lever for controlling said reel, substantially as set forth.

2. A fence-building machine consisting of a standard or support, a leg hinged thereto, clamps movable upon the said support, adapted to seize the longitudinal wires of the fence, and a reel mounted in the framing of the machine and adapted to stretch vertical wires, substantially as set forth.

3. A fence-building machine consisting of a support, a leg hinged thereto at its upper end, the said support and leg being on opposite sides of the fence, a latch pivoted to the lower end of said support or leg, and a reel mounted on the framing of the machine and adapted to stretch vertical wires, substantially as set forth.

4. A fence-building machine consisting of a standard 1, leg 3, hinged thereto, clasps adapted to seize the fence-wire mounted on the said standard, a reel 7, mounted in the upper portion of the machine and from which wire is adapted to be fed and stretched in a vertical direction, a friction-disk 9, bearing upon one end of said reel but fixed against rotation therewith, a hand-crank 11 for turning said reel, and a hand-lever 6, arranged to urge said friction-disk against or to draw it from said reel, substantially as set forth.

5. The improved fence-building machine, consisting of a standard 1, clamps 16, provided with forks *m*, mounted on said standard, a leg 3, hinged to the standard, a reel mounted in horizontal bearings in framework at the upper portion of the machine, a hand-lever 6, hinged to said frame-work at its upper end, a friction-disk 9, bearing upon one end of the reel and carried by said hand-lever so as to be urged against or drawn from said reel, and means for rotating the reel in its bearings, substantially as set forth.

6. In a fence-building machine, the combination of the slotted standard 1, clamps 16, movably mounted thereon, leg 3 hinged to said standard, the reel 7, mounted in suitable framing, two friction-disks 9 9, a hand-lever 6, hinged to said framing by means of a pin *i* and adapted to frictionally control said reel, and, as a securing means, a series of holes *e* and pin *d*, whereby said lever may be locked nearer to or farther from said reel, substantially as described.

7. In a fence-building machine, the combination of the standard 1, the leg 3, hinged thereto, the upper portion of the frame having horizontal pieces 4 and 5, the reel 7, mounted intermediate of said pieces, the hand-lever 6, hinged to the upper horizontal piece 4, fastening devices for said lever at the junction thereof and said lower horizontal piece 5, and a hook mounted on said lever and adapted to engage the wire of a fence and prevent torsional movement of the parts of the machine, substantially as set forth.

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

WILLIAM C. BOING.

Witnesses:
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