

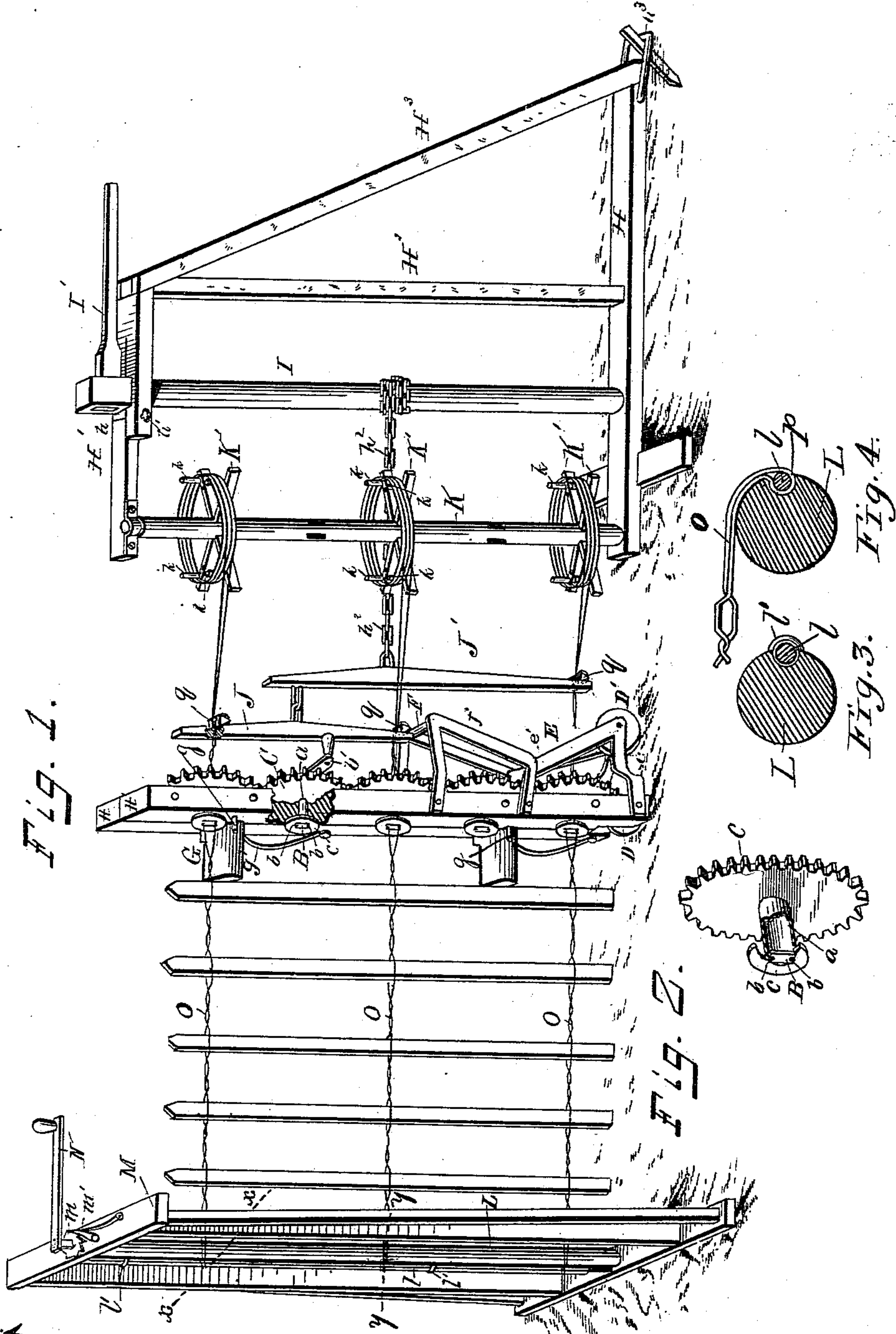
(Model.)

F. A. RICKARD & F. T. WRIGHT.

FENCE MACHINE.

No. 379,541.

Patented Mar. 13, 1888.



Witnesses;
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UNITED STATES PATENT OFFICE.

FRANKLIN A. RICKARD AND FREDERICK T. WRIGHT, OF BATAVIA, MICHIGAN, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO FRED WRIGHT AND BENJAMIN F. ROLFE, BOTH OF SAME PLACE.

FENCE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 379,541, dated March 13, 1888.

Application filed July 6, 1887. Serial No. 243,504. (Model.)

To all whom it may concern:

Be it known that we, FRANKLIN A. RICKARD and FREDERICK T. WRIGHT, citizens of the United States, residing at Batavia, in the county of Branch and State of Michigan, have invented certain new and useful Improvements in Fence-Weaving Machines; and we 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 letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to fence-making machines of that class which bind pickets in between the strands, which at the same time are formed into cables, and has for its object the construction of a machine at once simple, compact, and durable, and which can be used equally well in the field or shop.

The improvement consists in the novel and peculiar construction and combination of parts which will be presently more fully described and claimed, and shown in the annexed drawings, in which—

Figure 1 is a perspective view, parts being broken away, of a fence-making machine embodying our invention; Fig. 2, a detail perspective view of a wire-twister; Fig. 3, a cross-section of the roller upon which the completed fence is wound on the line X X of Fig. 1, and Fig. 4 a similar sectional view on the line Y Y of Fig. 1.

The machine is composed of a support for the fence, which in the field may be a post, or in the shop is a frame provided with a roller to take up the fence and wind it into bundles as it is made, a wire-twisting mechanism, a stretching device, an eyener for equalizing the strain on the several strands, and a support for the wires or strands which are destined to form the cables and be twisted about the pickets.

The twisting mechanism is composed of the standard made up of the two bars A and A', bolted together, the twisters formed of the tubular spindles *a*, held and journaled between the bars A and A', and having the flange *c* at

one end and the gear-wheel C at the opposite end of each of the spindles. The standard is embraced between the flange and the gear-wheel of the spindles, which are thereby held from longitudinal displacement. The gear-wheel and flanges may be one with the spindles or separate and secured thereto; or the flanges may be formed by reducing the main portion of the spindles, and the gear-wheels may be secured thereto in any desired manner. The filling-block B, fitted in the bore of the spindle, has openings or notches *b* in its edges, which admit of the passage of the strands of a cable. This filling-block is a short bar having notches in its edges and secured in said spindle in any well-known manner. The twist-ers are so disposed that the gear-wheels intermesh, and motion imparted to one by means of the crank *b'* will be transmitted to all the twist-ers.

The twisting device is provided with rolling supports D and D' directly in the line with the cables and arranged in advance of each other. The support D is journaled between the bars A and A', and the support D' is journaled in the lower front ends of the bracket E, which is composed of two corresponding parts, each part having horizontal and vertical branches *e* and *e'*, respectively, the parts being brought together at the point of intersection of the branches and having the roller D' journaled between them.

To facilitate the moving of the standard, it is provided with the handle F, held between the brackets *f*, secured to the sides of the standard. The picket spacer and guide G is pivoted at one end to the standard on the side opposite the gears and facing the fence, and is free at its other end to swing up and down, and is held in an approximately horizontal position by the stop *g*, which limits its upward motion, and the spring *g'*, which yieldingly holds said spacer and guide close against the stop. Normally G extends transversely across the face of the standard, and its outer end rests against the edge of the picket to be bound in, and forces the picket in proper position and determines the space or distance between the pickets. It often happens in finishing a line

of fence that all the wire to the equalizers must be used up, and that portion of the wire between the standard and equalizer is twisted. Under these conditions G is turned down out of the way and the last picket is inserted between it and the stop *g*. Now by operating the twisters the wire is twisted between the standard and picket and untwisted between the standard and equalizer, thereby permitting the said standard to advance while twisting the wires about this last picket.

The stretcher comprises a lower and upper sill, H and H', respectively; the upright H², the brace H³, and the shaft I, journaled vertically between the sills H and H', and project above the sill H', and adapted to receive the hand-lever I', which is fitted in a mortise or opening in said projected end of the shaft for rotating the shaft to obtain the desired tension on the strands of wire. The shaft is prevented from retrograde movement by a friction-brake, which is adjustable to regulate the tensile strain on the strands, and beyond which the strain cannot be exceeded. This friction-brake is preferably formed by providing the upper sill, H', with a kerf or narrow slot, *h*, which extends in opposite directions from the bearing of the shaft, forming two parts, which are drawn together by the set screw *h'*, to bind the shaft more or less, as desired. This shaft is connected with the strands by the equalizers J J' and the rope or chain *h*², which is secured at one end to the last equalizer of the series and at its other end to the shaft, upon which it is wound for tightening the strands. The reels for supporting the coils of wire are composed of the shaft K, journaled between the sills H and H' and provided with a series of openings, the horizontal arms K', having a series of transverse openings, and the vertical arms *k*, fitted in one of the series of openings in the arms K', which can be adjusted to any desired level and have their arms *k* set to accommodate any size of coil. The sill H is provided with the wire loop *h*³, which affords a ready means for applying the draft and receives the stake which anchors the stretcher in position.

When the fence is constructed in the fields, the ends of the strands are secured to the fence-post; but when constructed in the shop for the market the ends of the wires are secured to the roller L, journaled in the frame M, so that the frame may be rolled up on said roller as found expedient. The roller is grooved longitudinally, and the rod, *l*, fitted in said groove is held therein by the keepers *l'*, and is adapted to slide longitudinally for securing and releasing the ends of the wires from said roller, which has its upper end fitted in a recess in the upper bar of the frame and projected beyond said bar for receiving the ratchet-wheel

m and the hand-lever or crank N for winding up the fence. The roller is prevented from turning back by the pawl *m'*, which engages with the ratchet-wheel *m*.

The wire O, composing a cable, is folded on itself to form the bight *p*, through which the rod *l'* is passed for securing it to the roller L, as shown most clearly in Fig. 4. The wires O are passed through openings in the equalizers, and are prevented from slipping freely through said openings, when the required length of wire is unwound, by the short pieces *q* having the wires twisted about them a few times.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination, with the standard supporting the twisting mechanism, of the combined spacer and guide extended transversely across the standard and pivoted at one end and free to move at its outer end, the stop for limiting the upward movement of said outer end, and the spring for holding the free end of said combined spacer and guide yielding in contact with the stop, substantially as and for the purpose specified.

2. The combination, with the standard supporting the twisting mechanism, of the roller-supports D and D', located in advance of one another and in the plane of the twisters, the bracket E, supporting the roller D', the bracket *f*, and the handle F, uniting the ends of the brackets, substantially as and for the purpose described.

3. The combination, with the twisting mechanism, of the reel composed of a shaft having a series of openings along its length, arms having a series of transverse openings fitted in said openings in the shaft, and a second set of arms fitted in the openings in the aforesaid arms, substantially as specified.

4. The combination, with the twisting mechanism, of the herein shown and described device for supporting the end of the fence and rolling the same up, composed of the frame, the shaft longitudinally grooved and having the rod fitted in said groove and held therein by keepers journaled in the frame, and having one end extended beyond the frame and fitted in a notch in the edge thereof, the ratchet-wheel, the pawl, and the crank or hand-lever, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANKLIN A. RICKARD.
FRED T. WRIGHT.

Witnesses:

GEO. STARR,
E. L. DUNHAM.