

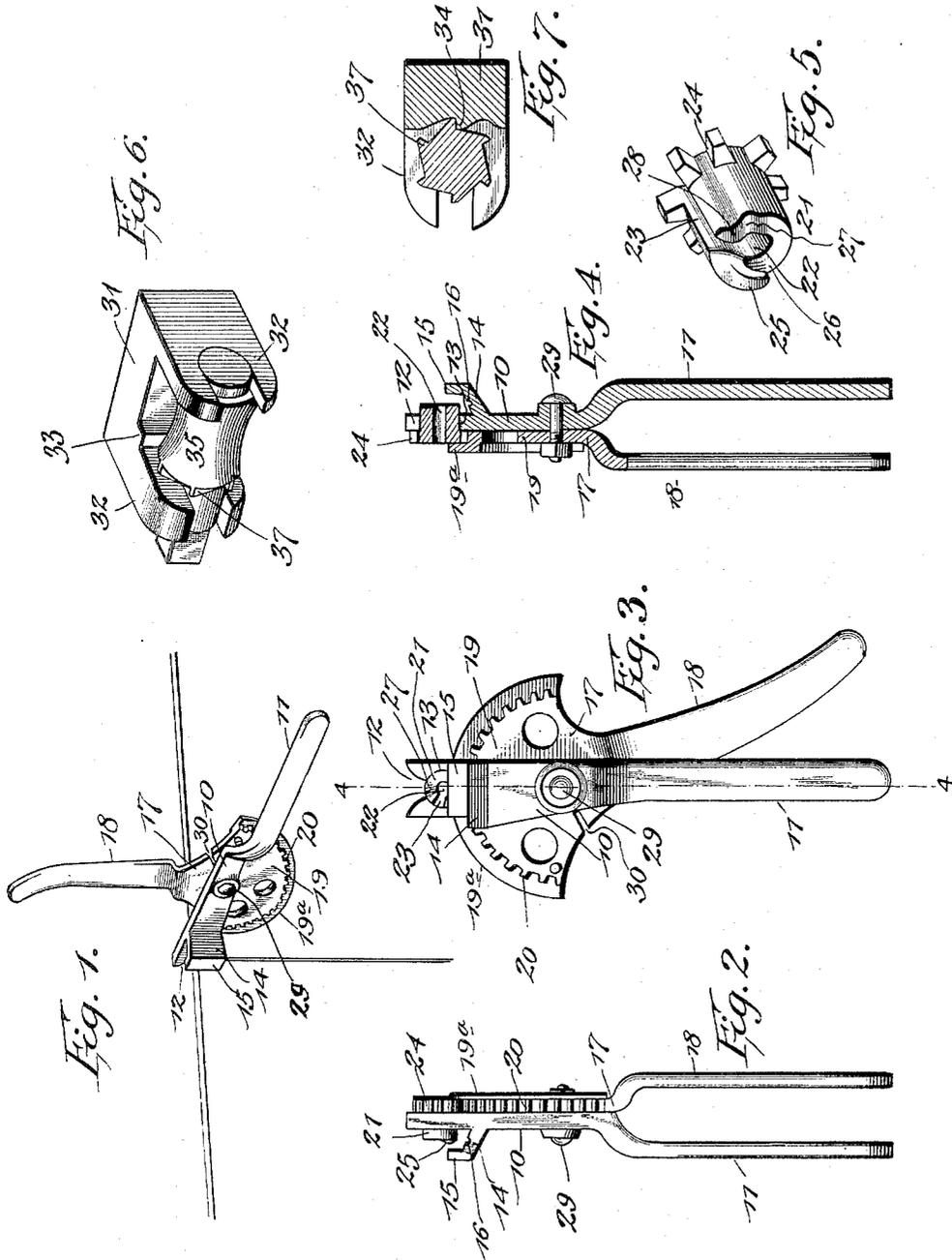
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C. A. TAYLOR.
FENCE WEAVING IMPLEMENT.

(Application filed Apr. 1, 1899.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES A. TAYLOR, OF WINCHESTER, ILLINOIS, ASSIGNOR OF ONE-HALF TO GEORGE C. PEAK, JOSEPH E. EDDINGS, AND CHARLES CRISP, OF SAME PLACE.

FENCE-WEAVING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 640,240, dated January 2, 1900.

Application filed April 1, 1899. Serial No. 711,334. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. TAYLOR, a citizen of the United States, residing at Winchester, in the county of Scott and State of Illinois, have invented a new and useful Fence-Weaving Implement, of which the following is a specification.

My invention relates to implements for applying stay-wires to the strand-wires or stringers of a wire fence; and the object in view is to provide a simple implement embracing but three parts in its construction adapted to securely and quickly apply the stay-wire to the strand-wire.

A further object is to provide an implement which may be carried and manipulated with ease and facility, because it does not support a wire-bobbin. Hence the weight of the implement is reduced to a minimum.

A further object is to provide a twister appliance with means for disengaging the stay-wire automatically therefrom at the proper period after the completion of the twist, thereby facilitating the removal of the implement from the strand and stay wires.

With these ends in view the invention consists in the novel construction and arrangement of parts, which will be hereinafter fully described and claimed.

To enable others to understand the invention, I have illustrated the preferred embodiment thereof in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a perspective view of a wire-weaving implement in operative relation to the stringer or strand-wire of a fence. Fig. 2 is an edge view of the implement. Fig. 3 is a side elevation. Fig. 4 is a longitudinal sectional view on the plane indicated by the dotted line 4 4 of Fig. 3. Fig. 5 is a detail perspective view of the twister. Fig. 6 is a detail perspective of the wire-tightener. Fig. 7 is a cross-section through the wire-tightener to show the means thereof for locking the revolvable spool.

The same numerals of reference are used to indicate like and corresponding parts in each of the several figures of the drawings.

One of the members of my three-part stay applying or weaving implement is the mem-

ber 10, which forms the carrying or supporting device for the revolvable twister. This member is provided at one end with an offset handle 11, by which the operator may hold the implement in proper relation to the strand-wire during the operation of rotating the twister for the application of the stay. At its opposite extremity from the handle the member 10 is bifurcated or forked, as indicated by 12, and within this bifurcation a journal-opening 13 is formed in the handle, the journal-opening and the bifurcation being in communication one with the other.

14 designates a guide-offset which is formed as an integral part of the member 10, and this guide is arranged across the member contiguous to the inner edge of the journal-opening 13. The guide extends at right angles to the plane of the member 10, and at its outer edge it is provided with a flange 15, that is disposed parallel to the line of the member 10. Said flange lies at right angles to the guide and extends across the plane of the journal-opening 13, in which is received the revolvable twister, so that the flange is disposed opposite to the twister, and in the upper face of the guide 14 is provided a longitudinal groove 16, adapted to receive the stay-wire, which is designed to rest upon the guide and be confined by said guide and its flange in proper relation to the coiling-finger of the twister, as will presently appear.

The other member 17 of the implement forms a lever by which the twister may be rotated twice on its axis in order to coil the stay-wire a number of times around the strand-wire. The member 17 is formed with the offset handle 18, that is similar to the handle of the member 10, and said member 17 is furthermore provided with a flat plate-like head 19, one edge of which is a segment or arc of a circle. The flat segmental head of the member 17 is formed at its free edge with an offset flange 19^a, that is concentric with the arc-shaped edge of the member itself, and on this arc-shaped edge of the member is provided a series of gear-teeth 20, which extend continuously along the edge of the head and form an operating-segment for the rotation of the twister when the member 17 is moved relatively to the member 10.

21 designates the twister of my improved weaving implement. This twister is cylindrical in form, its diameter is a trifle less than that of the journal-opening 13, and the length of said twister exceeds the width or thickness of the member 10. The twister is provided with an axial longitudinal opening 22 and with a radial slot 23, that opens through the cylindrical face of the twister and communicates with the axial opening 22 therein. At one end this twister 21 is formed with an integral gear-pinion 24, which is provided with a radial slot that is alined with the slot in the body of the twister, and at its other end said twister is formed with an offset or inclined coiling-finger 25. The coiling-finger extends in an inclined direction from one edge of the radial slot in the cylindrical body of the twister, and the end face of said twister, adjacent to the coiling-finger, is inclined, as at 26, in order that the coiling-finger may properly engage with the stay-wire which is to be applied to the longitudinal stringer. Said end face of the cylindrical revoluble twister is furthermore provided on the opposite side to the coiling-finger with an inclined notch 27, extended to form the abruptly-inclined throw-off face 28, that is adapted to bind against the stay-wire at the completion of the second rotation of the twister for the purpose of disengaging the stay-wire from the coiling-finger of said twister, and thereby uncouple the twister from the stay-wire for the expeditious removal of the implement from engagement with the strand and stay wires.

Each of the members of my improved fence-weaving tool is made in a single piece of metal—that is to say, the member 10 is cast in one piece, the member 17 is cast in another piece, and the member or twister 21 is formed in another piece of metal. The implement is simple and cheap of construction, and its weight is reduced to a minimum, so that it may be easily and conveniently handled.

In assembling the members or parts together the cylindrical body of the twister is thrust through the journal-opening 13 of the member 10, and the gear 24 on said twister is thus adapted to abut against one face or side of the member 10. The two members are overlapped, and they are connected operatively together by a pivot-bolt 29, which passes through the bar or shank of the member 10 and the plate-like head of the member 17, said pivot-bolt being concentric with the arc of the toothed segmental edge and the offset flange of the member 17. The head of the member 17 occupies such relation to the member 10 and the twister that the twister-gear 24 will mesh with the teeth of the segment 19, and the arc-shaped flange of said member 17 impinges or bears against the outer face of the gear on the rotary twister. It will thus be seen that the twister is confined against endwise movement by having the gear-pinion thereof fit between the bar or shank of the member 10 and the arc-shaped flange of the

member 17, and this flange is adapted to engage with the twister at all points in the adjustment of the lever member 17, whereby the twister-gear is confined in position to engage with the toothed edge of the lever-segment for the twister to be rotated by movement of the lever member 17.

In using my improved implement the operator first bends one end of a stay-wire to form a hook thereon, and this hooked end of the wire is fitted over the upper stringer or strand-wire of a fence. The bifurcated end of the handle member 10 is adjusted to engage with this upper strand-wire, and the lever member 17 is raised to the position shown by Fig. 1 for adjusting the twister 21 to a position where the radial slot thereof coincides with the space of the forked end of the member 10. The parts of the implement are thus disposed for the rotary twister to receive the strand-wire, and the coiling-finger of said twister is in a position to engage with the hooked or looped end of the stay-wire which is suspended from the upper stringer. The operator now depresses the lever member 10, and thereby turns it on the fulcrum-bolt 29, and this movement of the lever causes the toothed segmental head of the lever member to rotate the pinion and the twister 21. The stroke or length of movement of the lever is sufficient to make the toothed segment rotate the twister twice on its axis before the completion of the movement of said lever member, and the coiling-finger is thus adapted to twist the stay-wire around the strand-wire for the secure union of the two wires. At the completion of the second rotation of the twister the throw-off face 28 of the revoluble twister impinges or rides against the stay-wire and deflects the latter away from the end of the twister, so that the coiling-finger will be disengaged from the stay-wire, and as the twister at the completion of movement of the lever occupies a position for its radial slot to coincide with the bifurcation in the end of the handle member 10 the entire implement may easily be detached from the stay and strand wires. The implement may be used on the next strand-wire for coiling or twisting the stay-wire thereto, the operation being the same as that just described.

If desired, the annular space within the journal-bearing 13 may be lined with a suitable metal—as, for instance, Babbitt metal—to insure the easy and free rotation of the twister.

In Figs. 6 and 7 of the drawings I have represented a construction of wire-tightener by which the strand-wires may be drawn taut in order that the stay-wires may easily be applied thereto. In this construction of the tension device I employ a bracket 31, adapted to support a revoluble spool 35. The bracket 31 is cast in a single piece with a base-plate and jaws 32, and within one of the jaws is a vertical rib 33, having an angular or offset locking-shoulder 34. The spool 35 is pro-

vided at its ends with the cylindrical journals, adapted to fit in slots of the jaws 32, and between one of the journals and the end of the spool is a ratchet 37, which lies in the vertical plane of the shouldered rib 33. One of the journals is extended to form a polygonal end for the reception of a wrench or other tool by which the tension-spool may be rotated for coiling the strand-wire on the spool to secure the necessary tension, and the pull or strain of the stretched wire acts upon the spool to draw one of the teeth of the ratchet thereof into engagement with the locking-shoulder 34, thus preventing the spool from rotating in a direction which would tend to slacken the fence-wire.

In the operation of the weaving implement a stay-wire passes along the upper face of the guide 14 and is adapted to rest in the groove 16 thereof, and said stay-wire is maintained in proper relation to the working face of the twister by the annular flange 15, whereby the guide and its flange prevent the stay-wire from getting out of place with relation to the twister. If desired, the plate-like head of the lever member 17 may be provided between a fulcrum-bolt and the handle with an inclined slot 30, having a beveled face to form the cutting edge 30, against which the wire may rest, so as to lie in the path of the member 10, whereby the member 17 may be turned on the bolt 29, to cut the wire in the slot 30 thereof.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. A wire-weaving implement comprising a member provided with a toothed segmental

head having an offset guide-flange contiguous to the toothed edge thereof, another member pivoted to the first-named member and having a forked free end, and a revoluble slotted twister journaled in the fork member and having a pinion adapted to mesh with the toothed segment and to be confined between the flange on said toothed segment and the member in which it is journaled, substantially as described.

2. A wire-weaving tool comprising a fork member having the offstanding angular guide, a revoluble slotted twister journaled in said member and provided with a coiling-finger which is disposed contiguous to said guide, and a lever member pivoted to the first-named member and having a toothed segment which meshes with a gear-pinion of said twister, substantially as described.

3. In a wire-weaving tool, the combination of a forked handle member provided with an offset guide adjacent to its forked end, a lever member having a toothed segment provided with an offstanding arc-shaped guide-flange adjacent to its toothed edge, a pivotal bolt connecting the members together at a point concentric with the edge of the segment, and a revoluble twister having at one end a pinion which is confined between the handle member and the arc guide-flange of the lever member, said twister having its other end formed with a coiling-finger and the inclined throw-off face contiguous to the flange of the offset guide, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES A. TAYLOR.

Witnesses:

FRED CALLANS,
J. B. THOMPSON.