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FENCE TIGHTENING TOOL

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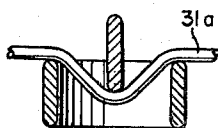
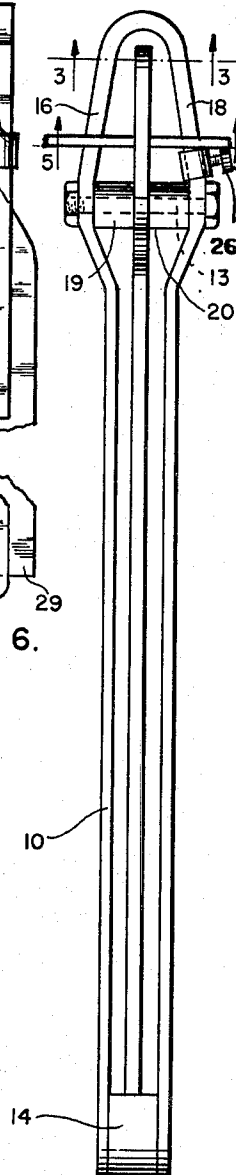
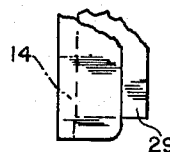
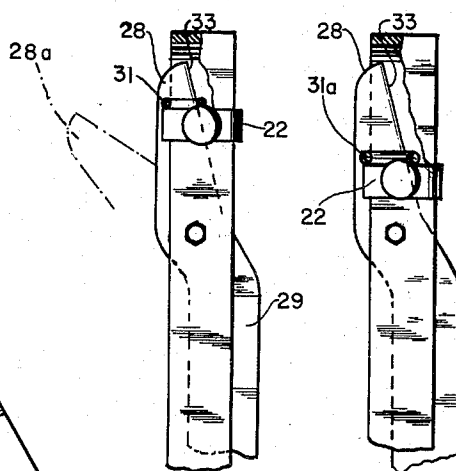
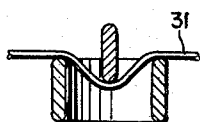
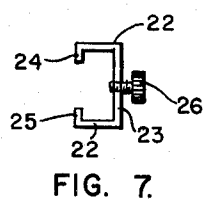
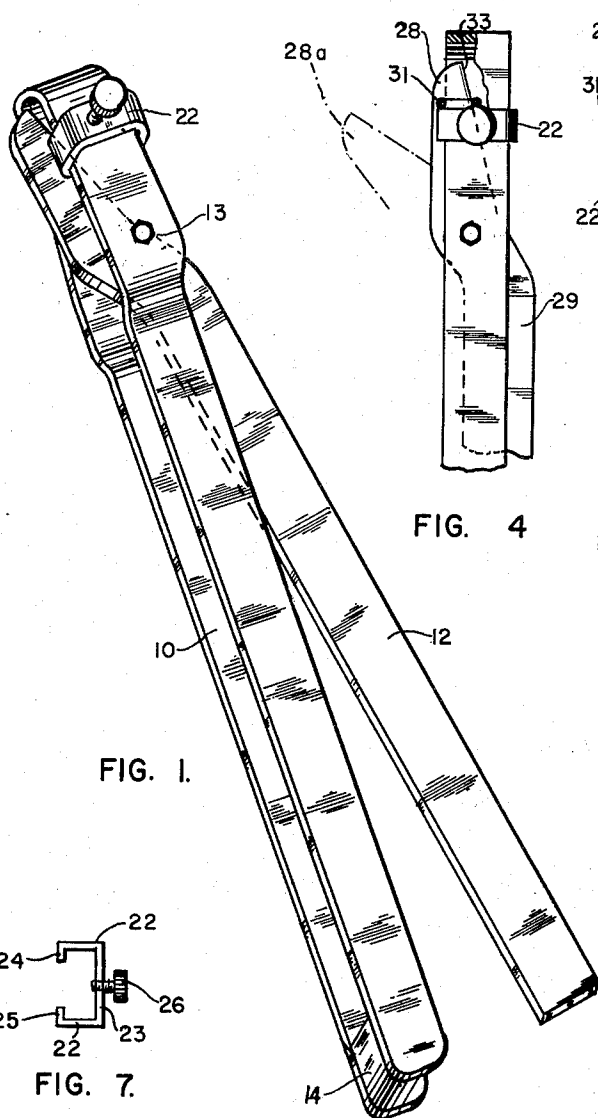


FIG. 2.

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FENCE TIGHTENING TOOL

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5 Claims. (Cl. 140-106)

This invention relates to a tool or device for tightening wire fences or the like.

Fencing often requires tightening, both during installation and as the fencing ages and sections or wires thereof start to sag.

An object of this invention is to provide a device which cooperates with a portion of a fence wire to bend it to a U-shape to reduce its effective length and tighten the wire.

A further object of this invention is to provide a device of this type having a U-shaped jaw provided with sides adapted to engage a wire at spaced portions thereon and a second jaw adapted to engage the wire between the sides of the U-shaped jaw to bend the wire to U-shape.

A further object of this invention is to provide a device of this type in which the sides of the U-shaped jaw converge and in which a guide is mounted on one of the sides of the U-shaped jaw to position the wire at a predetermined location thereon so that the width of the U-shaped bend or bight formed in the wire can be predetermined.

A further object of this invention is to provide a device of this type in which a stop is provided for limiting swinging of the other jaw to provide a predetermined depth of bight formed in the wire.

The above and other objects and features of the invention will be apparent to those skilled in the art to which this invention pertains, from the following detailed description, and the drawing, in which:

FIG. 1 is a perspective view showing a wire tightening device constructed in accordance with an embodiment of this invention;

FIG. 2 is a top plan view of the device illustrated in FIG. 1 shown in association with a portion of a wire being tightened therewith;

FIG. 3 is a view in section taken on the line 3-3 in FIG. 2;

FIG. 4 is a view in side elevation, partly broken away and in section, showing the tool in engagement with a wire in the position illustrated in FIG. 3 a movable jaw being shown in retracted position in dot-dash lines;

FIG. 5 is a view in section taken on the line 5-5 in FIG. 2;

FIG. 6 is a view in side elevation, partly broken away and in section, showing the tool in the position illustrated in FIG. 5; and

FIG. 7 is an enlarged view in side elevation of a guide removed from the device.

In the following detailed description, and the drawing, like reference characters indicate like parts.

In FIG. 1 is shown a device constructed in accordance with an embodiment of this invention which includes a body 10 and a movable jaw member 12 pivotally mounted thereon to swing on a pivot pin 13. The body is formed of a strip of metal bent to the shape shown most clearly in FIG. 2. Ends thereof are spanned by a stop block 14 attached thereto in an appropriate manner as by welding. The central portion of the strip is bent to substantially U-shape to form a stationary jaw having side portions 16 and 18 which are co-planar and converge from the pivot pin 13. Spacer washers 19 and 20 mounted on the pivot pin 13 space the swingable jaw member 12 from sides of the U-shaped jaw. A guide 22 is mounted on the jaw 18 as shown most clearly in FIGS. 2, 4, and 6. The guide 22 includes a main portion 23 (FIG. 7) of generally

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U-shape and inwardly directed flanges 24 and 25 which hold the guide on the side 18 of the U-shaped jaw as shown in FIG. 2. A set screw 26 is mounted in the body of the guide and can engage the side portion 18 to hold the guide in selected positions.

As shown most clearly in FIGS. 4 and 6, the swingable jaw member 12 includes a jaw portion 28 mounted on an integral handle 29 which jaw portion can swing between an open position illustrated in dot-dash line in FIG. 4 at 28a and a closed position, illustrated in full lines, in which the jaw 28 can engage a section of wire 31 to urge the wire against the side portions 16 and 18 and draw additional wire between side portions 16 and 18 as it bends the section of the wire between side portions 16 and 18 to a U-shape as shown in FIG. 3. The stop block 14 serves as a stop limiting swinging of the movable jaw member 12.

The device constructed for use with wires of varying thickness or stiffness. When a relatively thick or stiff wire 31a (FIGS. 5 and 6) is to be tightened, the guide 22 is placed at the position shown in FIG. 6 so that the wire is bent to form a relatively large bight, as shown in FIG. 5. When a relatively thin or less stiff wire 31 is to be tightened, the guide 22 is placed in the position shown in FIG. 4 so that a relatively small bight is formed in the wire 31, as shown in FIG. 3. As shown in FIGS. 4 and 6, a wire gripping face 33 of the jaw 28 slopes upwardly from adjacent the pivot pin 13 toward the wire gripping faces of the side portions 16 and 18 of the stationary jaw so that, in whatever position the guide 22 is disposed, the wire is bent or shaped to a bight having approximately the same angle which can be approximately 90 degrees, as shown in FIGS. 3 and 5.

As is shown in FIGS. 3 and 5 the wire engaging surfaces of jaws 16, 18 and 28 are preferably smooth so as to minimize possibility of damage to any protective coating on the wire. The angle between the wire engaging surfaces of jaws 16, 18 and 28 is preferably small so as to minimize any tendency of the wire to slide on these engaging surfaces.

The tool illustrated in the drawing and described above is subject to structural modification without departing from the spirit and scope of the appended claims.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A wire tightening tool which comprises a body having a pair of spaced wire supporting rounded edge faces, a jaw pivotally attached to the body for swinging between the wire supporting edge faces to engage a wire and bend a bight in the wire, the wire supporting faces being substantially co-planar and converging away from the pivot, means for stopping swinging of the jaw at a predetermined position, the jaw having a wire engaging face sloping upwardly from adjacent the pivot toward a free end of said jaw adjacent the plane of said wire supporting edge faces when engaging the stop, a guide mounted on the body, means for attaching the guide at selected positions along the wire supporting faces of the body for positioning the wire at a selected position along the wire supporting faces, the jaw being adapted to bend the wire to substantially the same angle for all positions of the guide.

2. A wire tightening tool which comprises a body having a pair of spaced wire supporting edge faces, a jaw pivotally attached to the body for swinging between the wire supporting edge faces to engage a wire and bend a bight in the wire, the wire supporting faces being substantially co-planar and converging away from the pivot, the wire engaging face of said jaw being smooth and oriented to intercept the plane of the supporting edge faces at increasing distance from the pivot as the jaw is moved toward its bight-formed limit position, guide means

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mounted on the body, and means for attaching the guide at selected positions along the wire supporting faces of the body for positioning the wire at a selected position along the wire supporting faces.

3. A wire tightening tool which comprises a body 5 having a pair of spaced wire supporting rounded edge faces, a jaw pivotally attached to the body for swinging between the wire supporting edge faces to engage a wire and bend a bight in the wire, the wire supporting faces being substantially co-planar and converging away from the pivot, means for stopping swinging of the jaw at a predetermined position, the jaw having a wire engaging face sloping upwardly from adjacent the pivot toward a free end of said jaw adjacent the plane of said wire supporting edge faces when engaging the stop, a guide mounted 10 on the body, and means for attaching the guide at selected positions along the wire supporting faces of the body for positioning the wire at a selected position along the wire supporting faces, the jaw being adapted to bend the wire to substantially ninety degrees for all positions of 20 the guide.

4. A wire tightening tool which comprises a body having a pair of spaced wire supporting edge faces, a jaw pivotally attached to the body for swinging between the wire supporting edge faces to engage the wire and bend 25 a bight in the wire, the wire supporting faces being substantially co-planar and converging away from the pivot, and means for stopping swinging of the jaw at a predetermined position, in which the wire engaging edge surface

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of the jaw is inclined to the plane of the wire supporting edge faces of the body and extends toward said plane from adjacent said pivot whereby a bight of predetermined depth is formed in the wire.

5. A wire tightening tool which comprises a body having a pair of spaced wire supporting surfaces, a jaw pivotally attached to the body for swinging between the wire supporting surfaces to engage a portion of the wire midway between portions thereof supported on said supporting surfaces and displace same so as to simultaneously draw additional wire between said supporting surfaces as a bight is formed therein, said wire supporting surfaces being generally co-planar and converging from adjacent said pivot toward a point remote therefrom, and said jaw having a wire engaging surface extending from adjacent said pivot generally toward said point of convergence when said jaw is in bight-formed limit position, whereby the effective length of the wire is shortened to tighten the wire.

References Cited by the Examiner

UNITED STATES PATENTS

522,164	6/94	Lockwood	140—106
762,691	6/04	Corrigan	140—106
1,570,708	1/26	Roush	81—15
1,619,084	3/27	Miller	140—106

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