INVENTOR

J. H. MIESNER
WIRE FENCE TOOL
Filed June 14, 1957

INVENTOR

J. H. Miesner

BY John M. Reynolds
ATTORNEY
This invention relates to a tool of simple construction which can be effectively employed for taking up slack in strands of fence wire and which at the same time will anchor the fence strands to the fence posts.

More particularly it is an aim of the present invention to provide a tool which may be conveniently carried in a pocket together with short lengths of wire with which the tool can be utilized for tightening the fence strands and for effectively securing the fence strands to the fence posts.

A further object of the invention is to provide a tool which is so constructed that the short lengths of anchoring and tension wire, with which the tool is utilized, can be effectively clamped in the tool to prevent slippage of the wire relative to the tool while the tool is in operation.

Still a further object of the invention is to provide a tool which can be adjustedly positioned in engagement with a strand of fence wire for tensioning the fence wire to various extents as required, depending upon the amount of slack existing therein.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, illustrating a presently preferred embodiment thereof, and wherein:

Figure 1 is a side elevational view, partly in section, showing the wire fence tool in an operative position;

Figure 2 is a horizontal sectional view, partly in top plan, taken substantially along a plane as indicated by the line 2—2 of Figure 1;

Figure 3 is a somewhat enlarged sectional view, taken substantially along a plane as indicated by the line 3—3 of Figure 1;

Figure 4 is a cross sectional view, taken substantially along a plane as indicated by the line 4—4 of Figure 1;

Figure 5 is a fragmentary cross sectional view, taken substantially along a plane as indicated by the line 5—5 of Figure 1, and

Figure 6 is a plan view on a reduced scale showing a portion of a fence strand as it appears after having been tensioned and secured to a fence post by operation of the tool.

Referring more specifically to the drawing, the wire fence tool in its entirety is designated generally 7 and comprises a tool of the pliers-type including two lever members 8 and 9 having complementary elongated ends forming handles 10 and 11, respectively, and opposite complementary ends forming jaws 12 and 13, respectively. The handles 10 and 11 have complementary inner end portions 14 and 15, respectively, which merge with the jaws 12 and 13, respectively, and which curved inner end portions 14 and 15 are recessed on adjacent sides thereof and are disposed with their recessed inner sides in opposed abutting engagement with one another. The crossed inner end portions 14 and 15 of the handles are connected together by a bolt and nut fastening 16 for swingingly connecting the levers 8 and 9, in the same manner as a pair of pilers, between the handles and jaws. As seen in Figure 2, the combined thickness of the crossed portions 14 and 15 is substantially equal to the width of each of the jaws and handles.

The jaws 12 and 13 have complementary opposed transversely ribbed inner sides forming jaw faces 17 which are disposed in abutting engagement with one another when the tool 7 is closed. The inner sides of the jaws 12 and 13, behind said jaw faces 17, are recessed to form an opening 18 between the inner portions of the jaws. The outer sides of the jaws 12 and 13 are provided with longitudinally spaced grooves 19 which extend transversely therethrough and which form essentially projecting bosses 20 which are longitudinally spaced relative to one another and are rounded in cross section. The side of the jaw of each lever, which aligns with the crossed portion 14 or 15 of the other lever, is beveled or recessed at the inner edge thereof to provide a transversely opening groove 21 on each side of the tool 7.

The outer ends of the jaws 12 and 13 are provided with aligned grooves 22 which are located midway between opposite sides of the tool 7, as best seen in Figure 2.

The handle 10, substantially midway of its ends, is provided with an inwardly extending bifurcated lug or ear 24 in which is loosely received one end of a link 25 which is pivotally connected to said ear 24 by a fastening 26. The link 25 extends from the ear 24 loosely through a slot 27 which is formed in and disposed longitudinally of the handle 11. A lever element 28 is pivotally connected by a fastening 29 to the other end of the link 25 and on the outer side of the handle 11. Said lever element 28 has a bifurcated end 30 which loosely straddles said last mentioned link end. The fastening 29 extends through one outer corner of the bifurcated end 30 and the other outer corner 31 thereof, which is disposed between the pivot 29 and the handle 11, forms a cam surface.

A fence post 32 is shown in Figures 1 and 2 with a strand of fence wire 33 extending across one side thereof. Assuming that it is desired to tighten the fence strand 33 and to anchor it to the post 32, one end of a short length of wire 34 is wrapped several times around and anchored to the fence wire 33 beyond the attachment shown as seen at 35 in Figure 6. The short strand 34 is then extended around the side of the post 32, opposite to the side thereof across which the fence strand 33 extends. The lever element 28 is swung upwardly to its dotted line position of Figure 1 to release the handles 10 and 11 so that said handles may be swung apart sufficiently so that said jaws 12 and 13 can be opened enough to receive a part of the other end of the strand 34 therebetween. Said last mentioned end of the strand 34 is positioned longitudinally between the jaws 12 and 13, after which the handles 10 and 11 are displaced toward one another to close the jaws 12 and 13, so that part of the strand 34 will be clamped between the toothed or ribbed jaw faces 17. The lever element 28 is then swung downwardly and forwardly back to its full line position of Figure 1 for locking the tool handles and jaws in closed positions. If the handles are not fully closed when the lever element 28 is swung downwardly, the handle 11 will be cammed toward the handle 10 by the corner 31. The end portion of the strand 34, disposed beyond the part thereof gripped between the jaw faces 17, extends longitudinally into the space 18 and is then bent to extend outwardly of the tool through one or the other of the grooves 21. It will be apparent that the tool 7 is positioned beyond the side of the post 32 which is remote from the side thereof adjacent to which the strand 34 is anchored at 35. The tool 7 is disposed above the fence strand 33 and is displaced downwardly so that a part of the fence strand 33 will be engaged in one of the downwardly opening grooves 19. The tool 7 is then revolved clockwise as seen in Figure 1 about the fence.
strand 33 as a fulcrum. Since the tool jaws are clamped to the strand 34, this will cause said strand to be tensioned considerably for tensioning the fence strand 33, so that the strands 33 and 34 will be drawn around the post 32 as seen in Figure 6, and by rotating the tool 7 several times around the fence strand 33, a portion of the strand 34 which is located adjacent the outer ends of the jaws 12 and 13 will be wrapped around and anchored to the fence strand 33, as seen at 36. Thus, the fence strand 33 is tensioned and also secured to the post 32 by the strand 34. It will be noted that in Figure 1 that the strand 33 is shown engaging the innermost bottom groove 19. Thus, the strand 34 will be stretched a distance equal to approximately twice the distance between said innermost groove and the outer ends of the jaw faces 17 as the tool 11 is revolved approximately 180° clockwise from its position of Figure 1 to effect a substantial tensioning of the fence strand 33. Where less tensioning of the fence strand is required, said strand can be engaged in the intermediate or outermost bottom groove 19. As the tool 7 is turned clockwise from its position of Figure 1, a portion of the strand 34, disposed immediately beyond the outer ends of the jaws 12 and 13, will be engaged in the end groove 22 of the lower jaw 13. Thus, the strand 34 will be prevented from twisting laterally of the tool jaws and possibly slipping out of engagement therewith while the twist or winding 36 is being formed. The bosses are rounded in cross section so that the tool 7 can be disposed at an oblique angle relative to the fence strand 33, as seen in Figure 2, while being revolved therearound. Thus, the tool 7 can be maintained substantially in alignment with the portion of the strand 34 which extends into the jaws 12 and 13.

It will be obvious that the tool 7 can be inverted so that the jaw 12 will be disposed in a lowermost position, and said jaw 12 will then appear exactly as the jaw 13 appears in Figure 1.

Various modifications and changes are contemplated and may be resorted to, without departing from the function or scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. A wire fence tool of the pliers-type comprising a pair of levers having complementary ends forming handles and opposite complementary ends forming jaws, said handles having inner ends disposed in crossed relation and pivotally connected to one another, said jaws having inner adjacent sides forming opposed jaw faces between which a portion of a strand of wire is adapted to be received and clamped when the jaws are in a closed position, and said jaws having outer sides at least one of which is provided with outwardly opening grooves disposed transversely of the tool, said grooves being disposed in longitudinally spaced relation to one another and inwardly relative to the outer ends of the jaw faces and being adapted to selectively receive a portion of a fence wire about which the tool is revolved as a fulcrum for tensioning the wire gripped in the jaws and for winding the wire about the fence wire, the selective engagement of the fence wire with said grooves varying the extent that the first mentioned wire is tensioned when the tool is revolved around the fence wire.

2. A wire fence tool as in claim 1, said jaw having rounded portions defining side walls of said grooves whereby said tool can be positioned at an oblique angle to the fence wire when revolved therearound for winding the first mentioned strand about a portion of the fence wire strand which is spaced from a portion thereof engaged by the grooved part of the tool.

3. A wire fence tool as in claim 1, at least one of said jaws having an outer end provided with a groove extending from the inner to the outer side of said jaw in which a portion of the first mentioned strand is adapted to be received and anchored when the tool is revolved around the fence wire strand to prevent lateral slippage of the first mentioned strand relative to the tool jaws.

References Cited in the file of this patent

UNITED STATES PATENTS

<table>
<thead>
<tr>
<th>Patent Number</th>
<th>Inventor</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>596,864</td>
<td>Farrar</td>
<td>Jan. 4, 1898</td>
</tr>
<tr>
<td>732,972</td>
<td>Stooftre</td>
<td>July 7, 1903</td>
</tr>
<tr>
<td>2,262,411</td>
<td>Smith</td>
<td>Nov. 11, 1941</td>
</tr>
<tr>
<td>2,279,068</td>
<td>Siehrandt</td>
<td>Apr. 7, 1942</td>
</tr>
<tr>
<td>2,670,015</td>
<td>Reynolds</td>
<td>Feb. 23, 1954</td>
</tr>
</tbody>
</table>