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WIRE GATE CLOSING AND TIGHTENING MEANS

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Fig. 1

Fig. 2

Fig. 3

Fig. 4

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These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a view in perspective showing a fragmentary portion of a fence post at the left and a wire gate post at the right and the device on the fence post which tightens the noose-like cable and tensions and retains the wire gate in its closed position;

FIGURE 2 is a view on a larger scale and wherein the parts appear in section and elevation and all essential parts are illustrated in cooperative relationship;

FIGURE 3 is a section taken on the vertical section line 5—5 of FIGURE 2; and

FIGURE 4 is a perspective view showing the lower end portion of the fixed fence post and the embracing end portion of the loop, that is the end of the loop which has the lower end portion of the gate post seated and removably held therein.

With reference now to FIG. 1 the gate post which we will assume is vertical is denoted by the numeral 6, the lower end portion (FIG. 6) being denoted at 8 and the upper end portion at 10. It is also to be assumed that this fence post is stationary. The gate to the right in FIG. 1 is denoted generally by the numeral 12 but is only fragmentarily shown. It is a wire fence structure and one of the strands of wire is denoted at 14 and is secured around the gate post 16 as denoted at 18. The means for pulling up, tensioning the gate wires and maintaining the gate post 16 in an erect closed position constitutes a post-embracing and pulling cable 20. It is the loop-like portion or noose 22 which embraces the gate post and the purpose of the means or device on the fence post is to support and shorten and tighten the cable. The overall stationary part can be conveniently referred to as a fence post fixture and it comprises a channel-shaped bracket 24. The bracket is channel-shaped and embodies a web portion 26 and a pair of spaced parallel flanges 28 and 30. The web portion is secured to the surface of the post 10 by bolts or equivalent screw-threaded headed fasteners denoted at 32. The median portions of the flanges are provided with holes or notches with which inner end portions of two outstanding axially aligned sleeves or tubes 34 and 36 are registered and connected. These notches plus the sleeves provide satisfactory outstanding bearings for the horizontal elongated shaft 38.

The shaft is of a cross-section and outside diameter that it rotates freely in the bearings 34 and 36 in which it is mounted for rotation. It will be noted, too, that this shaft has its central portion bridging the channel, that is the portion between the two flanges 28 and 30. The shaft is also of a length that the end portions 40 extend beyond their respective bearings 34 and 36. One extended end portion is provided with a handcrank 42 which can be said to be operable from outside the fence and gate. The other end portion is also provided with a similar handcrank 44 which is operable from the inside of the fence and gate. Not only is each terminal end portion extended beyond the end of the coacting bearing, it is provided at one side with a hole through which the terminal end portion of the shank portion of the crank is extended. The end portion 42 at the left in FIG. 2 extends through the hole, abuts the end of the bearing 34 and bridges the bore of the tubular shaft and is welded or otherwise anchored in place.

The construction is the same at the right as at 44 wherein it will also be noted that the welded terminal portion has an additional function which will be hereinafter referred to. The
loop or noose portion of the cable 20 embraces the gate post while the free ends are passed through a hole 46 provided therefor at the median portion of the tubular shaft and are then carried to the right as shown in FIG. 2 as at 48 and are provided with terminal retaining heads are collars 50 which are conveniently held in place in the manner illustrated. The intermediate portion of the cable is adapted to be wound around the median portion 51 of the shaft as denoted at 53. Thus by catching hold of either crank the shaft can be turned to either wind up or unwind the cable ends and thus tension or loosen the loop 22.

It will be noted in FIG. 2 that the bearing 34 is provided with a keeper hole 54 which is lined up with a similar keeper hole 56 in the bearing and these holes when in registry with each other serve to permit a locking pin to be inserted and removed. The locking pin is a simple cotter key 58 which is shown in locking position and which is attached to one end of a safety chain 60. The other end of the chain 62 is anchored on the web of the channel in any suitable manner so that the cotter key will not get lost.

In using the device the lower end portion of the gate post is positioned as illustrated in FIG. 4. With reference to this figure it will be seen that the keeper rod comprises an elongated link which is denoted at 66 and which has one end portion 68 embracing the bottom 8 of the fence post and secured by staples or the like 70. The other end portion 72 provides the keeper into which the lower end portion 64 of the gate post is positioned in order to permit the upper end portion to be properly pulled toward the post 6, and tightened up. To accomplish this the cable 22 is moved over the top of the gate post and one of the crank handles, whichever is most convenient, is turned until the gate is pulled up tightly as desired. One of the holes 56 in the cable winding shaft is then lined up with the hole 54 in the bearing and this is accomplished by either advancing or retarding the crank motion. When the two holes are properly lined up the cotter pin is dropped through the holes and the tension on the crank is released. The tension of the gate provides pressure which prevents accidental release of the pin. To open the gate, turn the crank in the direction that will tighten the gate just enough to relax pressure on the locking pin. The locking pin is then pulled out and the crank unwound all the way. The cable is now slipped off the top of the gate post and the bottom of the gate is lifted out of the retaining keeper or wire 72 in an obvious manner. It is stress to desire the fact that the gate closer will pull up tight and hold tightly the gate with a minimum amount of time and effort. Also the construction and arrangement is such that the cable winding and unwinding shaft can be operated from either side of the gate with ease and efficiency. Also the shaft can be turned in either direction. The invention as shown will function to satisfactorily draw a gate up tightly each time it is used without regard to the stretchability that may occur in the wires of the gate structure. The construction is such that the device can be aptly and efficiently mounted for use on a wide variety of fence posts of different sizes and shapes. In fact it is believed that the invention is of such simplicity and ease of operating that it can be aptly and acceptably operated by anyone (man, woman or child) tall enough to reach and operate the crank.

What is claimed as new is as follows:

1. For attachment to and use in conjunction with a vertically anchored stationary fence post and adapted for cooperation with a relatively movable countering vertical end post on a wire gate structure, a gate wire tightening and gate closing attachment comprising a fence post fixture embodying a bracket, said bracket being channel-shaped in cross-section, open at its respective ends and embodying a web having marginal outstanding opposed flanges, each flange being provided with an outstanding laterally projecting bearing, said bearings being axially aligned with each other and each bearing comprising a sleeve, an open-ended tubular member constituting and providing a shaft, said shaft having a median portion bridging said channel and having end portions mounted for rotation in their respective bearings, terminal end portions of said shaft extending beyond the respective outer ends of the adjacent bearings, each extended end portion being provided with a handcrank, a portion of said crank bearing against and having movable contact with the end portion of the bearing, a length of cable bent upon itself intermediate its ends and providing a gatepost embracing loop, end portions of the cable being coiled and wound around the median portion of said shaft, said median portion of the shaft having a hole therein and terminal end portions of said cable passing through said hole into the bore of the shaft and being anchored in place on an end portion of one of said handcranks.

2. The structure defined in claim 1 and wherein at least one bearing is provided with a keeper hole, a cooperating portion of said shaft having a keeper hole which is adapted to be registered with said first-named keeper hole, a readily insertable and removable locking pin fitting removably through the registering keeper holes, and a flexible safety element anchored on said bracket at one end and having its other end connected to said locking pin.

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