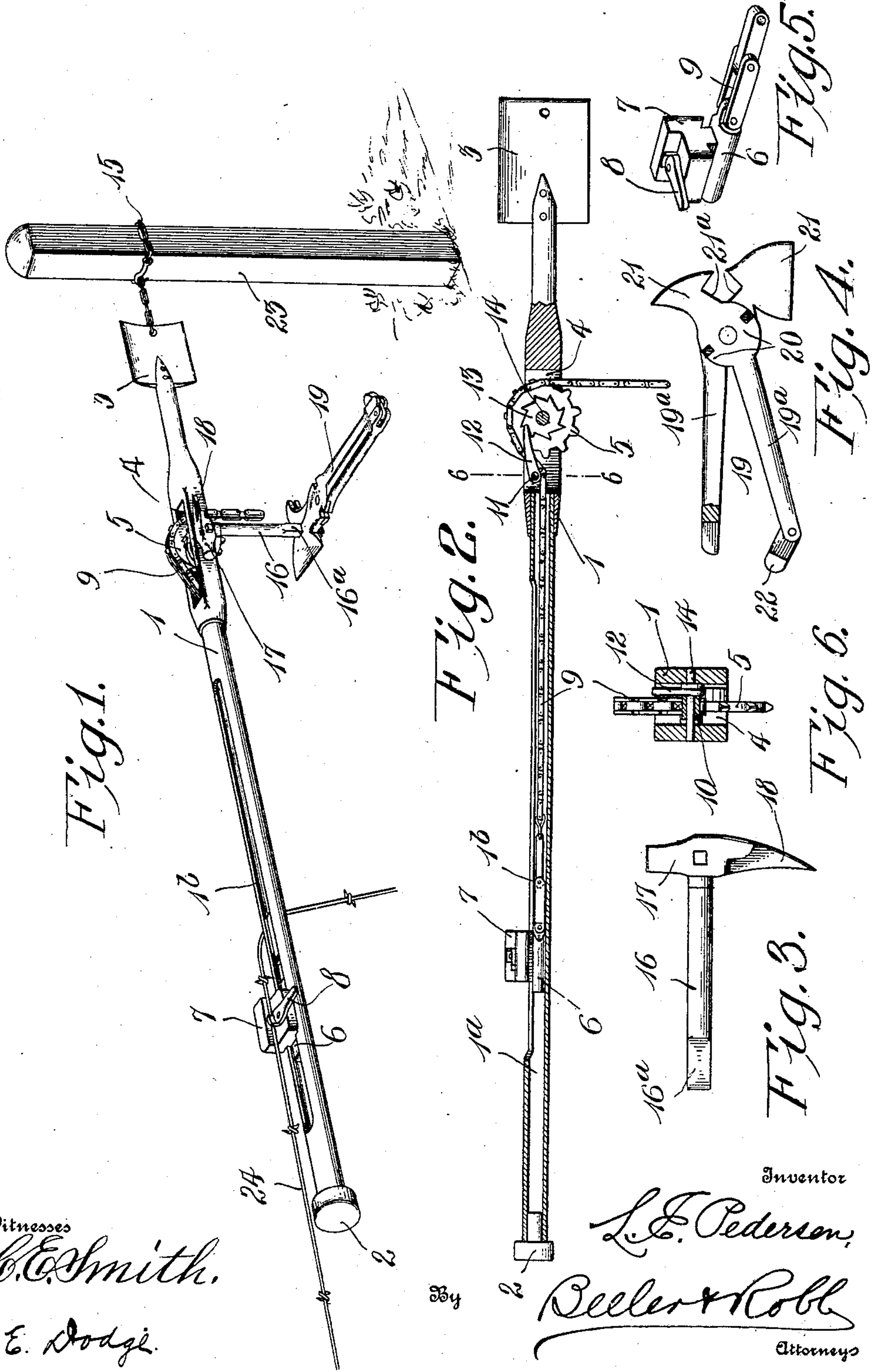


L. E. PEDERSEN.
WIRE TIGHTENER.
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903,763.

Patented Nov. 10, 1908.



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UNITED STATES PATENT OFFICE.

LUDVIG E. PEDERSEN, OF STOCKTON, CALIFORNIA.

WIRE-TIGHTENER.

No. 903,763.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LUDVIG E. PEDERSEN, a citizen of the United States, residing at Stockton, in the county of San Joaquin and State of California, have invented certain new and useful Improvements in Wire-Tighteners, of which the following is a specification.

This invention consists of a handy tool or implement especially adapted for use on the farm and embodying in its make-up a number of different tool elements the essential one of which in combination with others constitutes a very advantageous form of wire stretcher and tightener.

The object of the invention is to provide a tool of this nature of the utmost simplicity and yet which is susceptible of general use for many different purposes.

For a full understanding of the invention and the advantages thereof, reference is to be had to the following description and to the accompanying drawings in which:

Figure 1 is a perspective view showing a device embodying the invention as when in use; Fig. 2 is a vertical longitudinal sectional view; Fig. 3 is a side elevation of the hammer or crank; Fig. 4 is a side elevation of the crank handle which is a combined tool; Fig. 5 is a detail view of the sliding clamp mounted upon the handle or body of the device, and Fig. 6 is a transverse section taken about on the line 6—6 of Fig. 2.

Similar reference characters refer to similar parts throughout the description and drawings.

Specifically describing the invention, and referring particularly to the drawings, the numeral 1 designates the handle of the device at one end of which is provided an enlargement or weight 2, the latter constituting a pounder by which dirt may be tamped in holes, or similar operations performed. The opposite end of the handle 1 carries a shovel 3 and intermediate of its ends the handle is formed with an elongated opening or slot 4 between the sides of which is arranged a toothed wheel 5, the latter being journaled in bearings provided in the opposite walls of the slot 4.

The body of the handle 1 is preferably made of metal, and is hollow, as shown in Fig. 2. In the hollow portion 1^a of the handle 1 is mounted a sliding block 6 which

carries a clamp member 7 including a small clamping lever 8 of the ordinary cam type. The block 6 is freely movable in the hollow portion 1^a of the handle 1, and the side of the handle 1 is formed with a longitudinal slot 1^b through which the member 7 passes. A chain 9 is connected at one end with the block 6 and its opposite end passes under a roller 10 mounted in the opening 4 of the handle and supported by the pivot pin 11 of a pawl 12. The pawl 12 is adapted to engage a ratchet wheel 13 on the shaft 14 which carries the wheel 5. A suitable chain is detachably connected to the shovel 3 and is designated 15. When the shovel is being used the chain 15 is removed.

One of the ends of the shaft 14 projects from a side of the handle 1 and is square so as to receive thereon a crank arm 16 which crank arm comprises a hammer head 17 and a claw 18. The outer end of the arm 16 is squared or many sided as shown at 16^a and a handle 19 is thus adapted to be secured thereto. The handle 19 comprises pivoted members 19^a formed with wire cutters 20 and jaws 21, one of the jaws being sharpened so that it will form a hatchet. The jaws 21 are formed with meeting faces having many sided recesses 21^a and when the jaws are closed, and locked in such position by means of the pivoted clamp 22, it will be apparent that they may be readily secured to the crank arm 16 in the manner illustrated in Fig. 1, said jaws 21 engaging the square end 16^a. The jaws 21 furthermore provide pliers or pincers in an evident manner.

In the actual operation of the invention, the chain 15 may be secured to a post 23 and the arm 16 or hammer is arranged so that its claw 18 may be engaged with the wire 24 to exert a temporary pull thereon while said wire is being engaged with the clamp 7. The device will then be in the operative position shown in Fig. 1 and by grasping the handle 19 the arm 16 and shaft 14 may be rotated to tighten or stretch the wire 24 in an obvious manner. The parts 16 and 19 are detachable so that the tool elements thereof may be used independently of the handle 1 and as may be required in performing operations or jobs for which my invention is especially designed. The various tool elements of the parts 16 and 19 have a peculiar and advantageous coöperation with

the parts comprising the essential elements of the wire stretcher, in the practical use of the invention.

Having thus described the invention, what is claimed as new, is:

1. In a wire tightener the combination of a handle, provided between its ends with a slot, a toothed wheel mounted in said slot, a ratchet wheel connected with said toothed wheel to turn therewith, a pawl coöperating with the ratchet wheel, the body of the handle aforesaid being hollow and said hollow portion being formed with a longitudinal slot at one side thereof, a block slidably mounted in the hollow portion of the handle, a wire clamp connected with said block through the slot in the hollow portion of the handle, said hollow portion of the handle communicating with the slot in which the toothed wheel is mounted, a sprocket chain connected at one end with the sliding block aforesaid and arranged in the hollow portion of the handle so as to extend therefrom into operative connection with the toothed wheel, and means for turning the toothed wheel.

2. In a wire tightener the combination of a handle provided near one end with a slot extending therethrough, a shaft extending

transversely through the handle and intersecting said slot, means for turning said shaft, a toothed wheel on said shaft and in the slot aforesaid, a ratchet wheel applied to the shaft to turn therewith, a pivot member extending across the slot, a pawl mounted on said member and coöperating with the ratchet wheel, a roller also mounted on the pivot member, the body of the handle being hollow the major portion of its length and having a slot in a side of such hollow portion, a sliding block mounted in the hollow portion of the handle, a wire clamp connected with the sliding block and arranged exterior to the handle, a sprocket chain connected at one end with the sliding block and extending from the hollow portion of the handle into the slot in which the toothed wheel is arranged, said chain passing beneath the roller aforesaid and over the toothed wheel, and means for turning the shaft carrying the toothed wheel.

In testimony whereof I affix my signature in presence of two witnesses.

LUDVIG E. PEDERSEN.

Witnesses:

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