

April 3, 1956

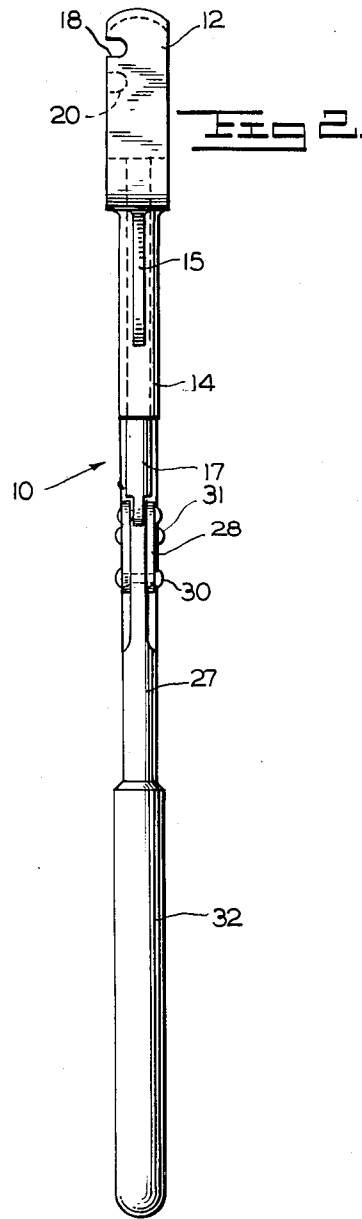
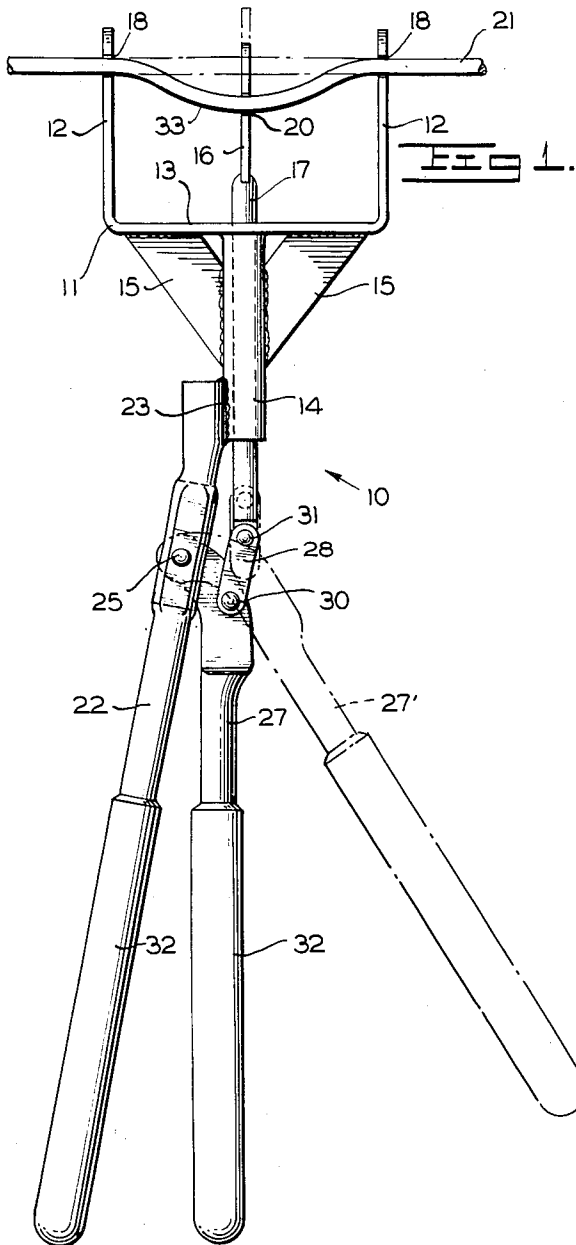
H. J. PRITTS

2,740,435

HAND OPERATED WIRE STRAIGHTENING TOOL

Filed Sept. 26, 1952

2 Sheets-Sheet 1



INVENTOR
HENRY J. PRITTS

BY *Gustave Miller*
ATTORNEY

April 3, 1956

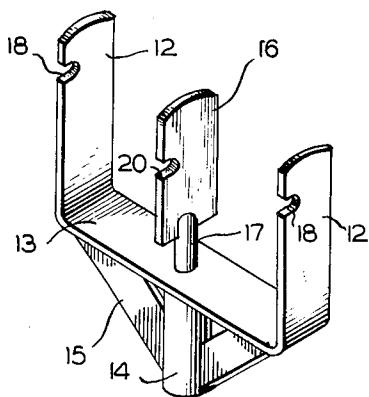
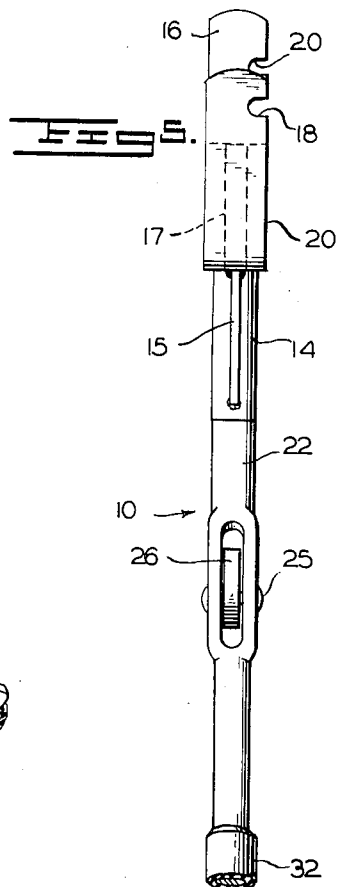
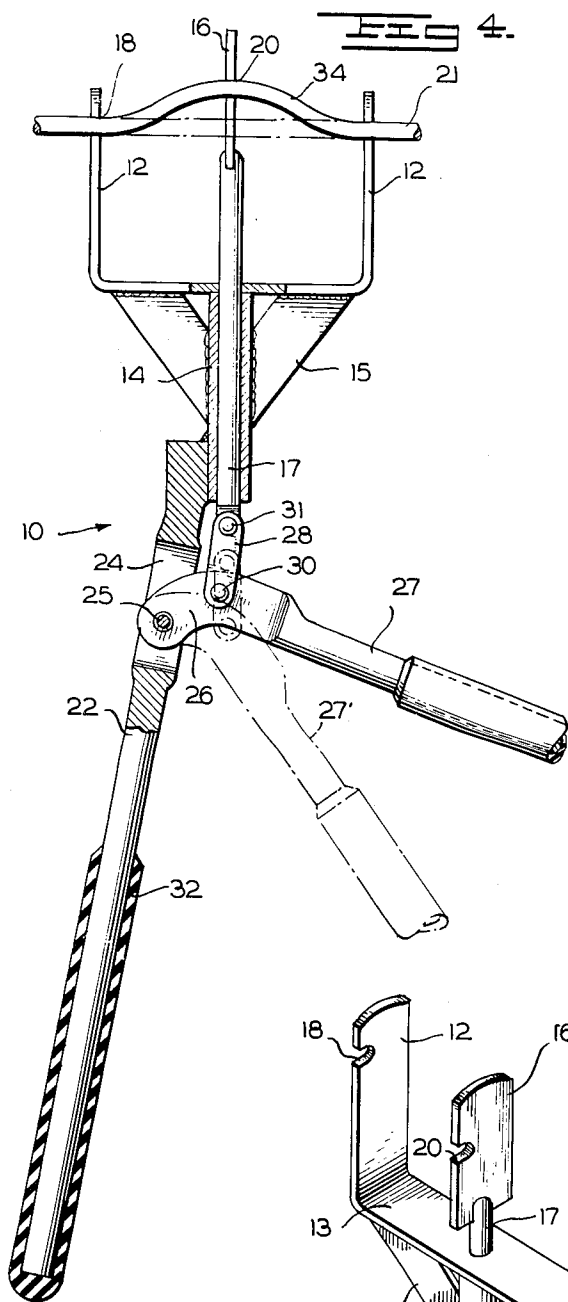
H. J. PRITTS

2,740,435

HAND OPERATED WIRE STRAIGHTENING TOOL

Filed Sept. 26, 1952

2 Sheets-Sheet 2



INVENTOR
HENRY J. PRITTS

BY *Gustave Miller*
ATTORNEY

1

2,740,435

HAND OPERATED WIRE STRAIGHTENING TOOL

Henry J. Pritts, Kitzmiller, Md.

Application September 26, 1952, Serial No. 311,720

1 Claim. (Cl. 140—147)

This invention relates to a hand operated wire straightening device and has for an object to provide a device principally intended for removing kinks from mine trolley wires, but also capable of being used for bending or straightening cold rolled steel or cable and similar articles.

A further object of this invention is to provide a wire bending or straightening device having a movably operable arm located between two rigid arms, all three arms having means for receiving and holding the wire, with the middle arm movable to bend the wire in either direction relative to the other two arms.

A further object of this invention is to provide a trolley wire straightening device having means for grasping a trolley wire at three points with the means grasping the middle point movable in either direction relative to the other two points to thus straighten the wire in either direction.

With the foregoing and other objects in view, this invention comprises the combination, construction and arrangement of parts hereinafter set forth, claimed and disclosed in the accompanying drawings, wherein:

Fig. 1 is a plan view of the straightening device of this invention in the process of removing a downward kink.

Fig. 2 is a side plan view looking toward the left of Fig. 1.

Fig. 3 is a top plan view of Fig. 1.

Fig. 4 is a view similar to Fig. 1 but partly in section and showing the device in the process of removing an upward kink.

Fig. 5 is a side plan view looking at the right of Fig. 1. Fig. 6 is a perspective view of the wire receiving arms.

There is shown at 10 the hand operated wire straightening or bending device of this invention. This straightening or bending device includes a U-shaped member 11 having a pair of spaced apart parallel rigid legs 12 extending from a rigid base or bight member 13. Extending in the opposite direction of the legs 12 from the base or bight 13 is a hollow sleeve 14 further secured to the bottom of the base or bight 13 by angular brace members 15. A third leg 16 is integrally and rigidly secured on the end of a reciprocable shaft 17 slidably extending through the hollow sleeve 14 and a suitable aperture in the base or bight 13.

Each leg 12 is provided with a wire receiving notch 18, the notches 18 being in axial alignment with each other, and the intermediate movable legs 16 is likewise provided with a similar wire receiving notch 20, which as shown in Figs. 1 and 4, may be moved into axial alignment with the notches 18 from either side thereof. The notches 18 and 20 are adapted to receive and hold a wire cable or cold rolled steel 21 therein for bending or straightening that portion of the wire 21 which is received within the notch 18.

In order to controllably move the leg 16 and thus bend or straighten the wire 21 received within the notches 12 and 18, there is secured to the sleeve 14 a rigid handle lever 22 as by welding 23 or other suitable means. The handle lever 22 is provided with a longitudinally extend-

2

ing slot 24 in which may be pivoted as at 25 the end 26 of a second handle lever 27. Adjacent these ends 26, a pair of link straps 28 are pivoted at one end thereof as at 30 to the handle lever 27 and at their other end are pivoted at 31 to that end of shaft 17 but extends below the sleeve 14.

Insulated handle grips 32 made of suitable material such as hard rubber or the like and suitably knurled are molded about the manipulating ends of the handle levers 22 and 27.

In operation, this bending or straightening device is particularly intended for straightening mine trolley wires, but is equally useful in bending or straightening other cable or cold rolled steel. In the case of mine trolley wires, the wires 21 are usually located very close to the heading, and there is not enough room to manipulate a tool a great amount. In Fig. 1, the tool is shown as removing a kink 33 from the mine trolley wire 21, the kink 33 extending downwardly from the overhead wire. In this case, the tool 10 is so manipulated that the notches 18 in the legs 12 serve to receive a straight portion of the wire 21, while the notch 20 in the leg 16 serves to receive the kink 33 of the wire 21, the handle levers 22 and 27 being in the full position shown. Then, the handle 27 is moved to the position shown at 27'.

This handle 27 moving about its focal pivot 25 advances the shaft 17 to its sleeve 14 and moves the leg 16 to bring its notch 20 into axial alignment with the notches 18, thus, eliminating the kink 23 and straightening out this portion of the wire.

In Fig. 4, the tool 10 is shown as removing or straightening an upward kink 34 in the wire 21. In this case, the movable lever 27 is first moved to the position shown in full lines at 27 in Fig. 4, so that the straighter portions of the wire 21 may be received within notches 18 and the king portion 34 may be received within notch 20 of the movable leg 16. Then the leg 27 in Fig. 4 is moved down to the position shown in dotted lines at 27' bringing the notch 20 into axial alignment with the notches 18, and thus, eliminating the kink at 34.

As a result of this construction, the center leg 12 may have its notch 20 moved both forward and back of axial alignment with the other two notches in the other two legs, thus, enabling the operator to remove bends in any direction while working from only one side of the wire, which is a decided advantage when the wire is laying on the ground or is hanging close to the roof or rib of a mine.

While the device has been shown and the structure described in detail, it is obvious that this invention is not to be considered as being limited to the exact form disclosed, and that changes in detail and construction may be made therein within the scope of what is claimed, without departing from the spirit of this invention.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

A wire straightening tool comprising parallel flat plates having axially aligned transversely aligned relatively deep U-shaped wire receiving notches therein, the legs of said notches being parallel and perpendicular to an edge of said plates whereby pressure may be exerted on a wire against either side of the notch, a third plate movably interposed between said rigid plates, said third plate having a U-shaped notch therein having parallel legs whereby upon movement of said third plate in either direction a wire positioned in said first mentioned notches may be bent in either direction by said last mentioned notch upon movement of said third plate, means for mounting said third plate to move its notch into and out of axial alignment with said first mentioned notches from either side thereof, said rigid plates extending in parallelism from a rigid connecting base and comprising right

angularly turned ends of said base, a sleeve extending from said base, a rod connected to said movable sleeve extending through said sleeve for slidable movement therewithin, a handle lever fixedly secured to said sleeve, a second handle lever pivotally connected to said first handle lever and a link pivotally connected at its opposite ends to said second handle lever and said rod for slidably advancing or retracting said rod and hence said movable plate and its notch as said second handle member is manually pivoted on said first handle lever, thus to bend or straighten a wire seated within the three notches of said plate.

References Cited in the file of this patent

UNITED STATES PATENTS

677,284	Sheahan	June 25, 1901
956,128	Mimmack	Apr. 26, 1910
1,026,916	Johnson et al.	May 21, 1912
1,493,821	Moyer	May 13, 1924
1,822,407	Kennedy	Sept. 8, 1931
2,128,225	Allen	Aug. 30, 1938