

(No Model.)

J. RYAN.
LINEMAN'S VISE.

No. 546,903.

Patented Sept. 24, 1895.

Fig. 1.

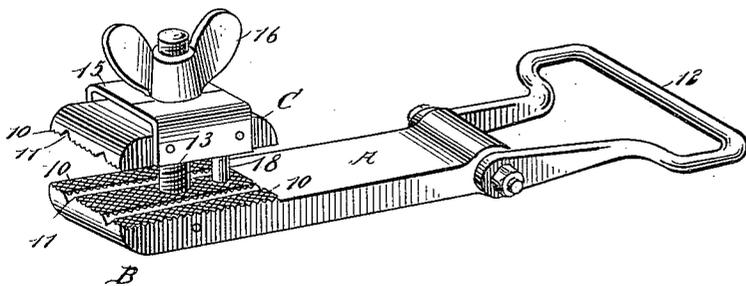


Fig. 2.

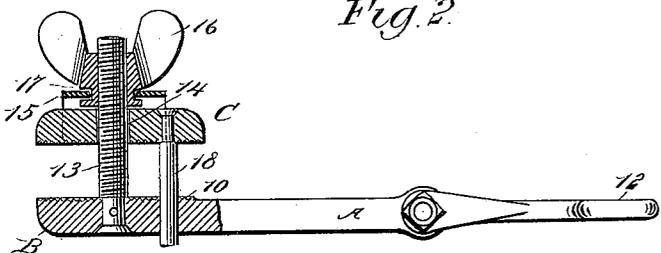


Fig. 3.

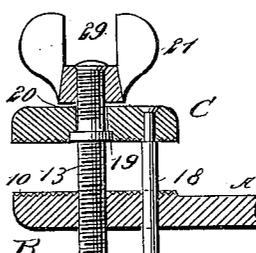


Fig. 4.

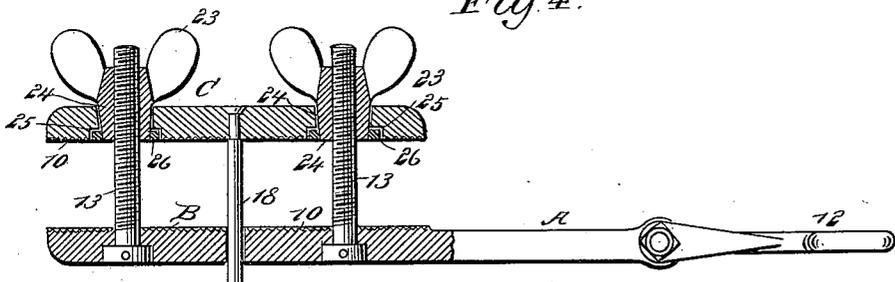
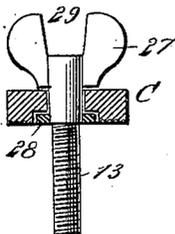


Fig. 5.



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LINEMAN'S VISE.

SPECIFICATION forming part of Letters Patent No. 546,903, dated September 24, 1895.

Application filed April 11, 1895. Serial No. 546,369. (No model.)

To all whom it may concern:

Be it known that I, JOHN RYAN, of New York city, in the county and State of New York, have invented a new and useful Improvement in Vises, of which the following is a full, clear, and exact description.

My invention relates to an improvement in vises, and especially to an improvement in what is known as "lineman's vises;" and the object of the invention is to provide a hand-vise or lineman's vise in which the jaws will present a maximum of bearing or contacting surfaces to the object to be held—as, for example, wire; and another object of the invention is to provide a vise of the above character in which the jaws will have parallel movement and may be manipulated either to open or to close them in an exceedingly simple and convenient manner.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the improved vise. Fig. 2 is a partial side elevation of and a partial section through the vise shown in Fig. 1. Fig. 3 is a longitudinal section through the jaws of the vise illustrating a slight modification in the means employed for manipulating the said jaws. Fig. 4 is a partial side elevation and partial longitudinal section through a further modified form of the device, and Fig. 5 is a section through one of the jaws and the adjusting-screw carried thereby.

In carrying out the invention the body of the device consists of a shank A, which is preferably widened out at one end to form a jaw B, and the inner or contacting face of this jaw is serrated or otherwise roughened, as shown at 10 in the drawings, and if in practice it is found desirable the contacting or biting surface of the said jaw B may be provided with longitudinal grooves 11 to receive insulated wire, plain wire, or equivalent material.

Ordinarily and preferably the biting-face of

the jaw B is elevated somewhat above the inner face of the shank A. The shank A is usually pivotally connected to a handle 12, which may be and ordinarily is in the nature of a loop. The jaw C, which is opposed to the jaw B, is the adjustable or movable jaw, and its inner face is treated in like manner as the inner or biting face of the fixed jaw.

In the form of the vise shown in Figs. 1 and 2 a screw or an exteriorly-threaded rod 13 is securely fastened in about the central portion of the fixed jaw B and is passed loosely through an opening 14 made in the movable jaw. A yoke 15 is attached to the movable jaw and extends over the back thereof and around the screw 13, being ordinarily made in two sections and of a spring material. A nut 16, preferably of the wing type, is screwed upon the outer threaded end of the screw 13, and the said nut is provided with an annular groove 17, in which the yoke 15 fits, as shown best in Fig. 2, whereby the nut will turn loosely in the yoke, and will therefore cause the movable jaw to travel with it up and down the screw. In order that one jaw may have parallel movement to or from the other, a guide-pin 18 is secured to the movable jaw and is made to pass through an opening in the fixed jaw, and this pin is ordinarily located at the back or rear portion of the jaws.

In Fig. 3 I have illustrated a slightly different means for operating the movable jaw than that just described, and it consists in causing the screw 13 to enter a threaded opening in the fixed jaw B, and said screw is provided with a collar 19, which enters an enlargement of the opening 20 made in the movable jaw and extending through from its inner to its outer face, loosely fitting the screw, and the outer end of the screw is threaded to receive a wing-nut 21, and the upper end of the screw is upset or otherwise extended over upon the nut, so as to virtually render the two integral, the adjustment being accomplished by turning the nut 21, and thereby turning also the screw 13, and as the screw travels through the fixed jaw the movable jaw is made to approach it.

In Fig. 4 I have illustrated a further modification of the vise, in which two screws 13 are employed, one at each side of the center, and the guide-pin 18 is placed between the

two screws. The screws are securely fastened in the fixed jaw and passed loosely through the movable jaw, receiving at their free ends wing-nuts 23, which are preferably provided with tapering hubs 24, held to revolve loosely in suitable openings 25 made in the movable jaw, and the movable jaw is made to travel with the nuts by expanding upon the hubs of the nuts bushings or ferrules 26, which are concealed within recesses made by enlarging the inner end portions of the openings 25.

In Fig. 5 the adjusting-screw 13 is shown as having a nut 27 integral therewith, and the screw is held to turn in the movable jaw C and enters a threaded opening in the fixed jaw. This is accomplished by securing on the head of the screw a band, collar, or ferrule 28, countersunk in the inner face of the said movable jaw, which, together with the nut, holds the screw loosely to the movable jaw.

It will be observed that a vise constructed as above set forth presents a maximum of gripping-surface to the wire or other article to be clamped or held between the jaws, and also that a wire may be grasped and secured at any point between its ends as well as at the ends, thus providing a vise particularly useful in running electric or other wires, but which is likewise adapted to any purpose to which a vise may be applied.

In order that the thumb or wing nuts may be readily turned in a manner to force the jaws in exceedingly close contact, a space 29 is made between the wings of the nut adapted to receive a lever, which may be the handle or handles of a pair of pliers or other tool.

The guide-pin 18 may be secured to either the fixed or to the movable jaw. 40

The construction of the device as above described permits the wire to be gripped near its ends, the vise being arranged parallel to the wire, so that said wire extends along between the jaws B and C on one side of the screw, the end thereof projecting over the flattened surface of the body A, so as to be in convenient position to be spliced; or the line-wire may be so gripped and severed as to permit of making connection therewith. Moreover, the construction is such that a loop may be formed in the line-wire and the side portions thereof held parallel to each other between the jaws B and C on opposite sides of the adjusting-screw, the bight of said loop extending back over the flattened upper surface of the body A, whereby the said loop may be cut and the two ends of the line-wire be held while being spliced. 50 55

Having thus described my invention, I claim as new and desire to secure by Letters Patent— 60

A vise comprising a fixed jaw and a movable jaw provided with corresponding biting surfaces on adjacent sides, an adjusting screw connected to the fixed jaw, a nut engaging said screw, and a spring connection between said nut and the movable jaw, said connection forming a means of attachment between said screw and the movable jaw, substantially as set forth. 65 70

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Witnesses:

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