

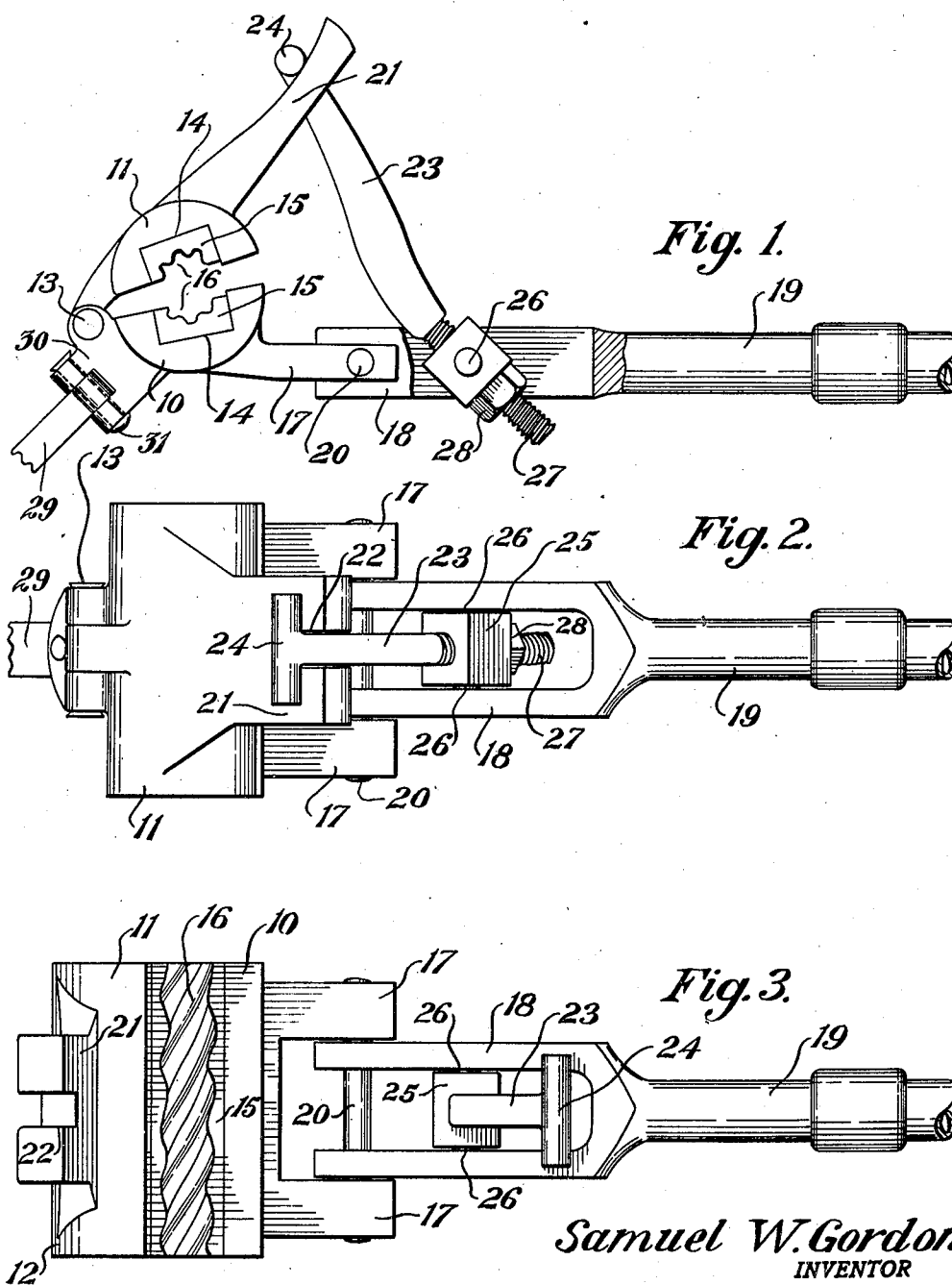
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WRENCH

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WRENCH

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2 Claims. (Cl. 81-91)

The invention relates to wrenches, and more especially to a gripping wrench designed for firmly gripping a cable, rod or similar article for either holding it against rotation or rotating the same as may be desired.

The object of the improvement is to provide a wrench of the pivoted jaw type arranged to be quickly and easily adjusted to accommodate cables or rods of varying size, and adapted to firmly grip the cables or rods to prevent movement thereof relative to the wrench.

Another object is to provide a wrench of this type in which one of the jaws is pivotally attached to the operating handle, upon which is also pivoted a locking arm for engagement with the other pivoted jaw.

The above together with other objects which will be apparent from an inspection of the accompanying drawing and the following description, or which will be later pointed out, may be attained by providing a pair of gripping jaws pivotally connected together, one of said jaws being pivotally connected to the operating handle; a locking arm being pivotally mounted upon the operating handle and provided with a crosshead for engagement with a recess or notch in the free end portion of the other jaw; means being provided for adjusting the length of said locking arm, between the pivotal point and the crosshead thereof, in order to accommodate cables and rods of varying size.

An embodiment of the invention is illustrated in the accompanying drawing, in which

Figure 1 is a side elevation of the improved wrench to which the invention pertains, parts being broken away for the purpose of illustration, the wrench being shown in the closed or gripping position;

Fig. 2, a plan view of the wrench with the parts thereof in the same position as shown in Fig. 1; and

Fig. 3, a plan view of the wrench with the parts in the open or inoperative position.

Similar numerals refer to similar parts throughout the several views.

The wrench includes the gripping jaws 10 and 11 provided with the cooperating hinge knuckles 12 which receive the hinge pin 13 by means of which the jaws are pivotally connected together.

Each jaw has a socket 14 in its inner face, preferably squared as best shown in Fig. 1, within which is located a gripping block 15 preferably provided in their opposed faces with the substantially half-round serrated recesses 16 which may be of the shape best shown in Fig.

3 for the purpose of more tightly gripping a cable, rod or the like.

The lower jaw 10 is provided with a spaced pair of legs 17 which are pivotally connected to the bifurcated end portion 18 of the operating handle 19 as by the pin 20.

An ear 21 is formed upon the swinging side of the upper jaw 11 and provided in its free edge portion with a recess or notch 22. This recess is adapted to be engaged by the arm 23 having a crosshead 24 at its free end, said arm being pivotally connected to the operating handle.

For the purpose of adjustably and pivotally mounting the arm 23 upon the operating handle, the nut 25 is located within the bifurcated portion 18 of the handle and provided upon opposite sides with trunnions 26 pivoted within the corresponding furcations of the bifurcated end 18 of the operating handle.

The lower end portion of the arm 23 is screw threaded as shown at 27 and adjustably mounted through the nut 25, a jamb nut 28 being located thereon for locking the arm in any adjusted position.

For the purpose of manipulating the jaws of the wrench to clamp them upon a cable or rod, a short handle 29 may be pivotally connected to the bifurcated lug 30, upon the jaw 10, as by the pin 31.

In operating the improved wrench, the arm 23 is first adjusted to proper position to accommodate the cable, rod or the like to be gripped and said arm is then swung backward upon its pivot and the upper jaw 11 is swung to the open position as illustrated in Fig. 3.

The cable or rod to be gripped is then engaged by the recess 16 in the lower jaw and the upper jaw is swung downward into engagement with said cable or rod, the arm 23 then being swung forward upon its pivot and into engagement with the notch 22 upon the ear 21 of the upper jaw, as shown in Figs. 1 and 2. For this purpose it may be necessary to swing the operating handle upward upon the pivot 20 to permit the arm 23 to engage the notch 22.

By then pulling downward upon the operating handle, the same will again pivot upon the pin 20 and the arm 23 will pull the upper jaw 11 downward while the lower jaw 10 is urged upward by the movement of the handle 29 toward the handle 19, drawing the jaws tightly toward each other and firmly gripping the cable or rod between the jaws, preventing any movement of the cable or rod relative to the jaws of the wrench. It will be seen that by the action of

the operating handle pivoting upon the pin 20, the legs 17 of the lower jaw and the ear 21 of the upper jaw act as levers to positively draw the jaws toward each other.

As shown in Fig. 1, the pivotal point 13 of the jaws and pivotal point 26 of the pivoted arm 23 are normally located above the pivotal center 20 of the leg 17 and operating handle 19.

When the handles 29 and 19 are moved toward each other, as above described, the points 13 and 26 will pass down over the pivotal center 20, and the jaws 10 and 11 will be locked upon the cable.

The handle 29 may then be released, permitting it to swing downward upon its pivot 31, to a position substantially parallel to the cable or rod, and the cable or rod is held tightly clamped between the jaws by a continued pull upon the operating handle 19.

I claim:

1. A wrench including a pair of gripping jaws pivotally connected together at one side, a rigid leg fixed to the opposite side of one jaw, an operating handle pivotally connected to the end portion of said leg, a second handle pivotally connected to said one jaw near the pivotal point of the jaws and arranged to swing downward upon its pivot when not in use, a notched ear upon the other jaw on the side opposite to the pivotal point of the jaws and an arm pivotally mounted

upon the operating handle and having a crosshead at its free end for engagement with said notched ear, the pivotal points of the jaws and the pivoted arm being located above the pivotal center of the operating handle and leg and arranged to be thrown over center to lock the jaws upon a cable or the like when the two handles are moved toward each other.

2. A wrench including a pair of gripping jaws pivotally connected together at one side, a rigid leg fixed to the opposite side of one jaw, an operating handle pivotally connected to the end portion of said leg, a second handle pivotally connected to said one jaw near the pivotal point of the jaws the second handle being pivoted upon an axis located in a plane at right angles to a plane passing through the axes of the pivots of the jaws and operating handle, a notched ear upon the other jaw on the side opposite to the pivotal point of the jaws and an arm pivotally mounted upon the operating handle and having a crosshead at its free end for engagement with said notched ear, the pivotal points of the jaws and the pivoted arm being located above the pivotal center of the operating handle and leg and arranged to be thrown over center to lock the jaws upon a cable or the like when the two handles are moved toward each other.

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