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E. DUGGINS.

PIPE TONGS OR WRENCH.

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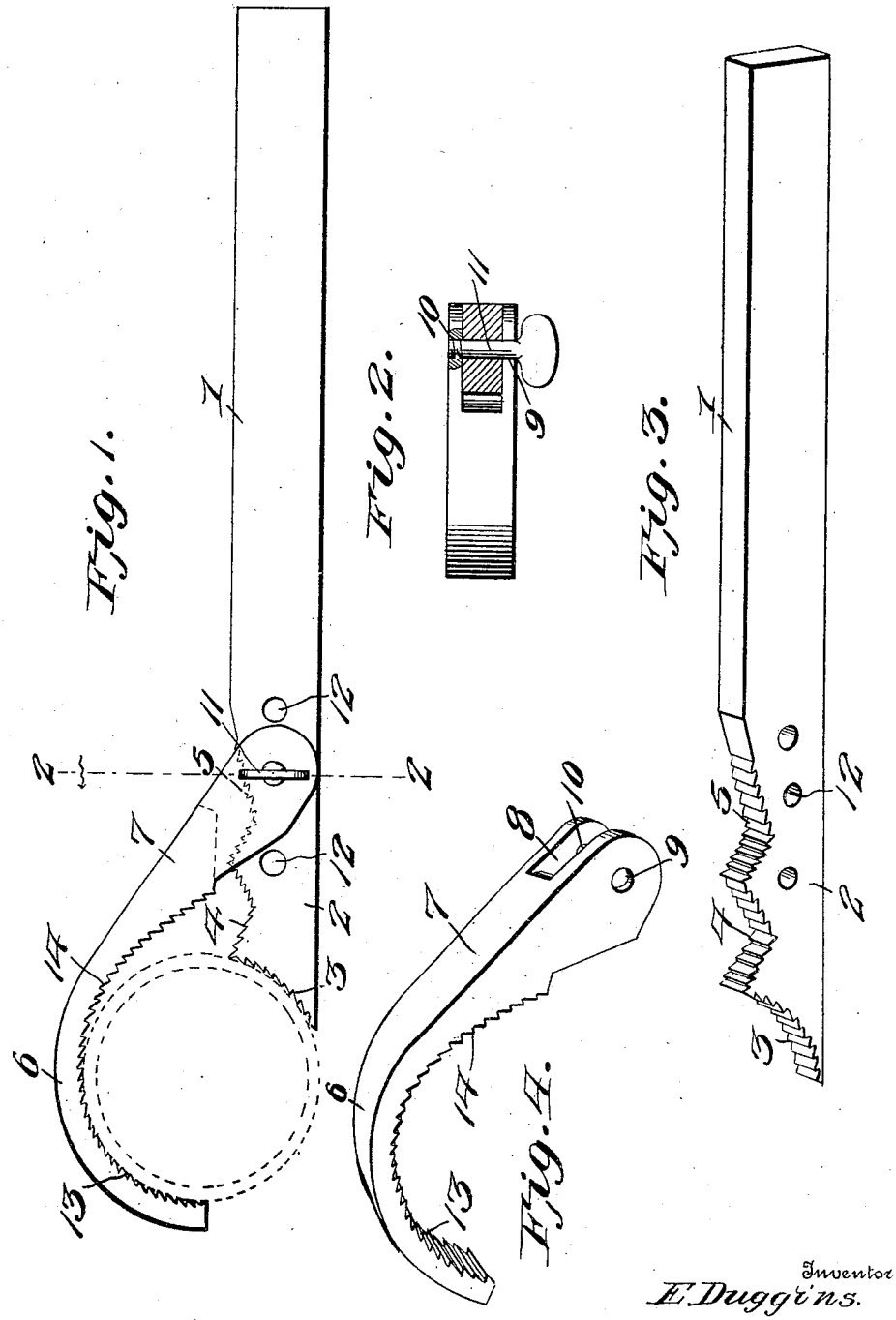

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PIPE TONGS OR WRENCH.

No. 809,102. Specification of Letters Patent. Patented Jan. 2, 1906.

Application filed September 12, 1905. Serial No. 278,100.

To all whom it may concern:

Be it known that I, EDWARD DUGGINS, a citizen of the United States of America, residing at Oliver Springs, in the county of Roane and State of Tennessee, have invented new and useful Improvements in Pipe Tongs or Wrenches, of which the following is a specification.

This invention relates to improvements in pipe tongs or wrenches, and, generally stated, has for its object to provide a tool of this character which is simple of construction, strong and durable and comparatively inexpensive of production, adapted to operate in the most effective manner to afford a firm grip upon the pipe without injury thereto, and which is also adapted for gripping and turning pipes, rods, and bars of different sizes.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which-

Figure 1 is a side elevation of the wrench, showing in dotted lines a pipe gripped thereby. Fig. 2 is a cross-section on the line 2 2 of Fig. 1. Figs. 3 and 4 are perspective views of the handle and fixed jaw and the pivoted jaw of the tool.

The tool comprises a handle-bar 1, provided with a fixed jaw 2, having a plurality of gripping-faces. The outer end of the handle is provided with a toothed or serrated gripping-face 3, in rear of which in one of the side edges of the jaw are formed substantially V-shaped gripping faces or recesses 4 and 5, arranged one in advance of the other, the sides of the face 4 being arranged substantially at an oblique angle, while the front side of the face 5 is arranged substantially obliquely and the rear face thereof at an obtuse angle to more effectually adapt the said faces of the jaw for the reception and a gripping action upon pipes, rods, and bars of different sizes. A pivoted jaw 6 is provided to coöperate with the fixed jaw and has a shank portion 7, bifurcated at its rear end, as indicated at 8, to straddle the fixed jaw, one of the arms of the bifurcation being provided with a smooth-surfaced aperture 9 and the other with a threaded aperture 10 to receive a pivot-screw 11, which is threaded at its outer end to engage the threads of the opening 10. The screw is also adapted to pass through any one of a series of openings 12, formed in the handle-bar and fixed jaw to adjustably connect the pivoted jaw thereto for application to pipes of different sizes. The outer portion or half of the pivoted jaw 6 is of arcuate form and is provided with a serrated gripping-face 13, extending in the arc of a circle concentric with the center of the pipe to which the wrench is to be applied, while the inner portion or rear half of the pivoted jaw has a gripping-face 14, forming a continuation of the face 13, but extending on an arc of greater radius, so as to project beyond or lie eccentric to the axis of the pipe. The openings 9 and 10 are so arranged in the shank portion of the pivoted jaw as to lie in a line centrally of the shank and on a line diagonally to the handle of the wrench when the tool is applied to a pipe, while the openings 12 are arranged in the center line of the handle, so that when the wrench is applied to a pipe the gripping-faces 3 and 13 of the fixed and pivoted jaws will respectively bear upon the pipe at diametrically opposite sides thereof above and below the center line of the pipe and on a line diagonally to the plane of the handle. By this means the thrust of the handle-bar will be transmitted on an angular line to the pivoted jaw to increase the leverage or applied power, and thereby adapt the serrated faces to grip the pipe with great force without injury thereto, and so that the wrench when in applied position will not slip upon the pipe. The serrated face 14 of the pivoted jaw is adapted to coöperate with the side toothed faces 4 and 5 of the fixed jaw for clamping smaller pipes than those designed to be held between the serrated faces 3 and 13, and by adjusting the pivoted jaw forward or backward by passing the pivot-screw 11 through one or the other of the receiving-openings 12 the jaws may be relatively adjusted for a better gripping action. This adjustability of the pivoted jaw also permits the gripping-faces 3 and 13 to be used for gripping large or small pipes located in the confined places where it is desirable to limit the projection of the pivoted jaw beyond the toothed side of the fixed jaw. It will be observed that these advantages are attained by simple construction of wrench, which may be manufactured at a comparatively low cost.

Having thus described the invention, what I claim is—

In a wrench, the combination of a straight fixed jaw provided with two toothed recesses,

and a concaved toothed face extending from the outermost recess to the back of the straight jaw; a pivoted adjustable jaw of arcuate shape having part of its inner face adapted to coöperate with the outer face of the fixed jaw; said toothed recesses of fixed jaw adapted to coöperate with the inner face of the adjustable jaw when said adjustable jaw is adjusted with relation to the recesses, and means for adjusting the pivoted jaw with relation to the fixed jaw.

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

EDWARD DUGGINS.

Witnesses:
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