F. GORMAN.

PIPE GRIPPING ATTACHMENT FOR MONKEY WRENCHES.

APPLICATION FILED JUNE 22, 1908.

928,444. Patented July 20, 1909.

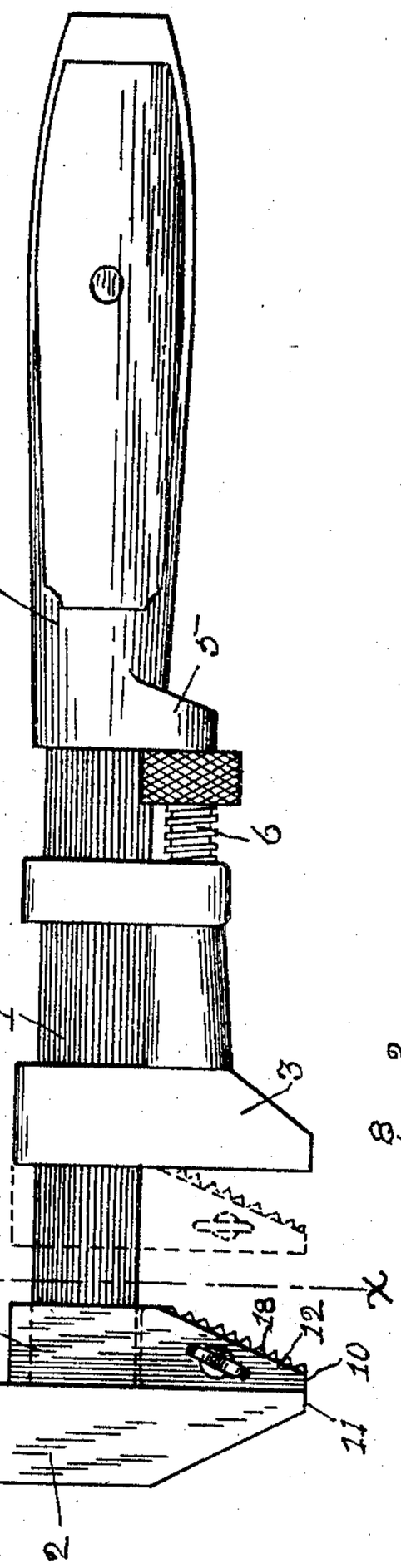

Fig. 1.

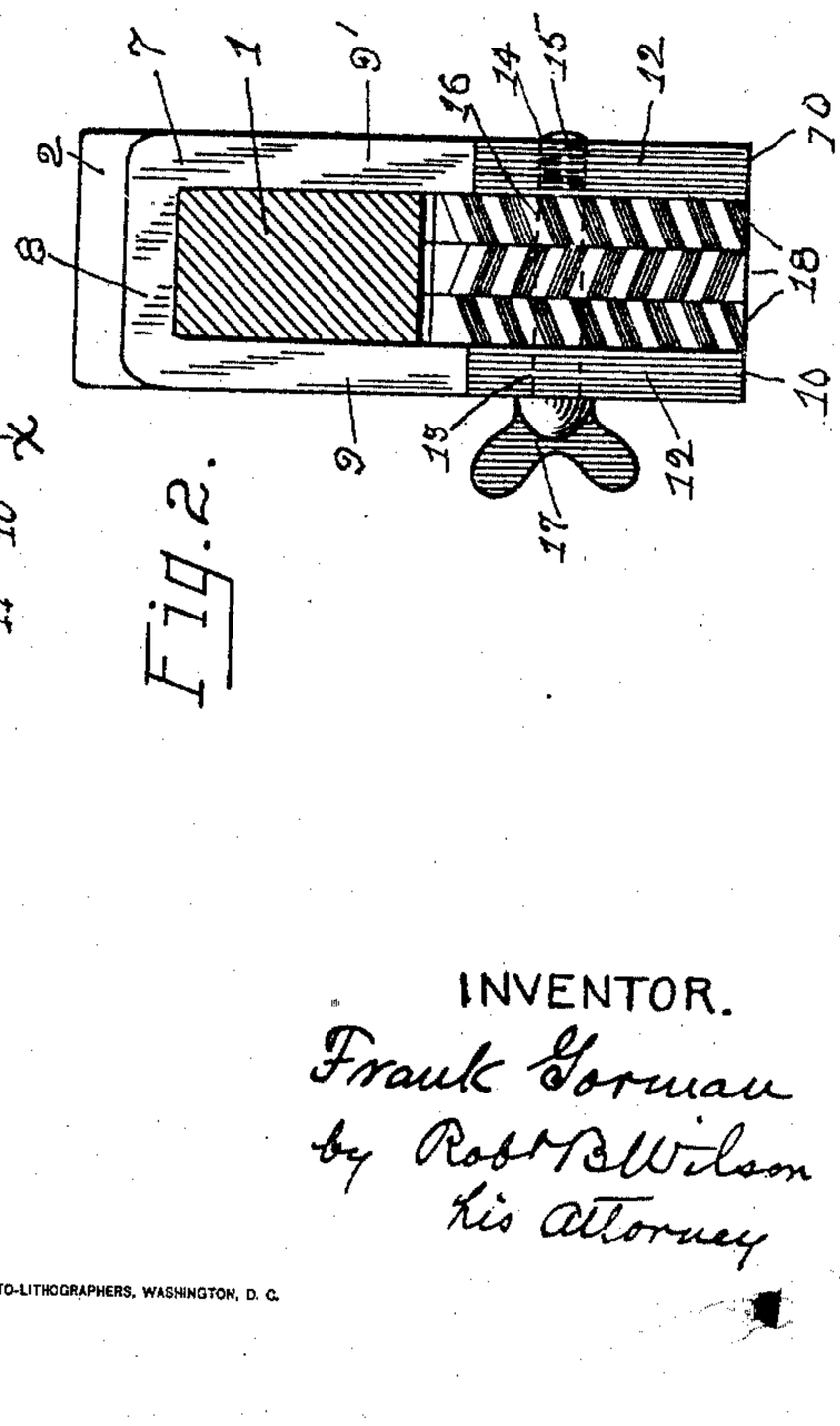

Fig. 2.

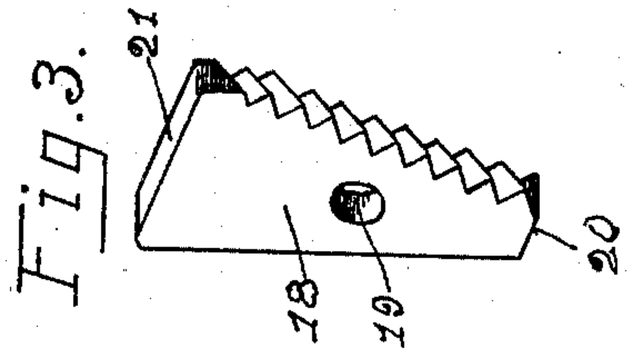

Fig. 3.

WITNESSES:

Fred H. Kress

M. L. Smith

INVENTOR.

Frank Gorman

by Robt B. Wilson

his Attorney

UNITED STATES PATENT OFFICE.

FRANK GORMAN, OF TOLEDO, OHIO, ASSIGNOR OF ONE-HALF TO WILLIAM HARROP, OF TOLEDO, OHIO.

PIPE-GRIPPING ATTACHMENT FOR MONKEY-WRENCHES.

No. 928,444. Specification of Letters Patent. Patented July 20, 1909.

Application filed June 22, 1908. Serial No. 439,672.

To all whom it may concern:

Be it known that I, FRANK GORMAN, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Improvement in Pipe-Gripping Attachments for Monkey-Wrenches.

My invention relates to a pipe gripping attachment for monkey wrenches and has for its object to provide a monkey wrench with an auxiliary jaw that is readily attached to its stock between the fixed and movable jaws, and adapt the wrench for convenient and efficient use as a pipe wrench, and that while so attached is adapted to be adjusted to adapt the wrench for use either as a pipe wrench or for the ordinary purposes of a monkey wrench. Furthermore to provide an attachment of the kind and for the purpose that is readily detached from the stock, and that is provided with a plurality of interchangeable and serrated gripping members the teeth of which together form zigzag serrations across the face of the auxiliary jaw, whereby the jaw is made adapted to more efficiently grip a cylindrical surface and which when the handle of the wrench is moved in one direction grips a pipe or other like object, and readily releases it when the handle is moved in the opposite direction and that adapts the wrench to more efficiently grip a pipe or the like without injury to the pipe. I accomplish these objects by the construction and combination of parts as hereinafter described and illustrated in the drawings, in which—

Figure 1 is a side view of a monkey wrench of the ordinary type, equipped with a pipe gripping attachment constructed in accordance with my invention. Fig. 2 is a cross section of Fig. 1 on line *x*—*x*, and showing the gripping face of my attachable jaw, and Fig. 3 is a perspective side view of one of the gripping members of the attachable jaw, detached therefrom.

In the drawings 1 designates the squared stock of a monkey wrench, 2 the fixed jaw mounted on the end portion of the stock, 3 the movable jaw, 4 the handle having the bearing boss 5, and 6 the adjustable screw threaded into the movable jaw 4, and journaled in the abutment 5.

To adapt the wrench for use as a pipe wrench I have provided a yoke 7 preferably formed of a flat bar of suitable length and width, having the end portions bent sidewise at right angles to the central portion to form the end portion 8 and the parallel side portions 9 and 9′. The distance between the sides 9 and 9′ adapts the yoke 7 to be mounted on the stock 1, abutting the fixed jaw 2, and the sides are of a length to extend their free ends 10 flush with the end 11 of the fixed jaw and are each provided with a bevel 12 toward the fixed jaw from near the stock 1 to the ends 10. The sides of the yoke 7 and 9′ are provided respectively with alined bores 13 and 14 centrally of their beveled portions the bore 14 being of slightly less diameter than bore 13, but interiorly threaded to receive the threaded end portion 15 of a yoke bolt 16, having a wing head 17 formed on the opposite end portion adapted to shoulder against the outer face of the adjacent yoke side 9, when the bolt is inserted through the bore 13 and threaded into the bore 14 of the opposite side 9′.

Between the sides of the yoke 7 are mounted on the bolt 16 a plurality of jaw plates 18, each of slightly greater width and corresponding in bevel with the portions of the sides 9 and 9′ that project beyond the sides of the stock, the jaw plates 18 each being provided with a transverse bore 19 adapted to register with the bores 13 and 14 of the sides of the yoke when the straight faces and edges of the plates are in register with the straight faces and edges of the yoke sides 9 and 9′ which abut the fixed jaw 2, and the plates 18 are of a length when they are mounted on the yoke bolt 16, between the sides 9 and 9′ of the yoke, that their outer ends 20 are flush with the outer ends 10 of the sides of the yoke and their inner ends 21 are near to without abutting the stock 1. The beveled sides of the jaw plates extend slightly outward beyond the beveled faces of the sides 9 of the yoke, and the projecting portions are serrated at regular intervals on lines that are parallel but that do not intersect the edges of the bevel at right angles, and the serrations of alternate plates are reversed respectively to the angle of the serrations of the intervening plate, whereby the serrations are zigzagged across the combined plates. When the yoke and grip plates are assembled on the stock abutting the fixed jaw, the bolt 16 is threaded into the threaded bore 14 of the side 9′ until the sides 9 and 9′ of the yoke are compressed on the stock 1, which

completes the attachment of the auxiliary jaw.

A monkey wrench thus equipped, being adjusted and applied to a pipe, as the handle of the wrench is moved to revolve the pipe in one direction, the teeth of the jaw plates engage and tend to draw the pipe inward between the jaws, whereby the resistance of the pipe increases the grip of the wrench on the pipe, and when the handle is moved in the opposite direction its grip is released, and by alternating short strokes the pipe is coupled or uncoupled according to the direction the pipe is revolved by the wrench, and according as the toothed jaw follows or precedes the movement of the handle in the direction of revolution of the pipe.

While it is preferred to mount and secure the yoke on the stock abutting the fixed jaw of the wrench, it is manifest that it may be loosely mounted on the stock in reversed position abutting the movable jaw, and operated in like manner as described with or without tightening the yoke on the stock by the bolt 16. It is also manifest that by loosening the yoke on the stock and reversing the jaw plates 18 endwise, the wrench may be used for nuts or the like without removing the yoke from the stock.

By zigzagging the serrations of the combined gripping plates the liability of opening the seam of a pipe is avoided, and an increased grip on the pipe is obtained.

What I claim to be new is—

1. The combination with a monkey wrench of a pipe gripping attachment, comprising a U shaped yoke formed of a flat bar, by bending end portions of the bar sidewise of the bar to form sides of the yoke, said yoke being adapted to bestride the stock of the wrench between the jaws and edgewise abut a jaw of the wrench, the free end portions of the sides extending beyond the stock being beveled away from the stock toward their ends and toward the abutting jaw, and provided with alined transverse bores central between their ends and the stock, a yoke pin extending through the bores of the yoke sides, said pin being provided with means adapted to compress the sides on the stock, and a gripping jaw pivotally mounted on the yoke pin between the yoke sides, said jaw having a face flush with the faces of the yoke sides abutting the wrench jaw, and having the opposite face beveled parallel with and projecting beyond the bevels of the yoke sides with the projecting portion provided with transverse serrations diagonal to the face.

2. The combination with a monkey wrench of a pipe gripping attachment, comprising a U shaped yoke formed of a flat bar, by bending end portions of the bar sidewise of the bar to form sides of the yoke, said yoke being adapted to bestride the stock of the wrench between the jaws and edgewise abut a jaw of the wrench, the free end portions of the sides extending beyond the stock being beveled away from the stock toward their ends and toward the abutting jaw, and provided with alined transverse bores central between their ends and the stock, a yoke pin extending through the bores of the yoke sides, said pin being provided with means adapted to compress the sides on the stock, and a gripping jaw pivotally mounted on the yoke pin between the yoke sides, said jaw comprising a series of plates side by side parallel with the yoke sides, each plate having a face flush with the faces of the yoke sides abutting the wrench jaw, and its opposite face beveled parallel with and projecting beyond the bevels of the yoke sides, with the projecting portion provided with transverse serrations diagonal to the face of the plate.

3. The combination with a monkey wrench of a pipe gripping attachment, comprising a U shaped yoke formed of a flat bar, by bending end portions of the bar sidewise of the bar to form sides of the yoke, said yoke being adapted to bestride the stock of the wrench between the jaws and edgewise abut a jaw of the wrench, the free end portions of the sides extending beyond the stock being beveled away from the stock toward their ends and toward the abutting jaw, and provided with alined transverse bores central between their ends and the stock, a yoke pin extending through the bores of the yoke sides, said pin being provided with means adapted to compress the sides on the stock, and a gripping jaw pivotally mounted on the yoke pin between the yoke sides, said jaw comprising a series of plates side by side parallel with the yoke sides, each plate having a face flush with the faces of the yoke sides abutting the wrench jaw, and its opposite face beveled parallel with and projecting beyond the bevels of the yoke sides, with the projecting portion provided with transverse serrations diagonal to the face of the plate, the angles of the serrations of companion plates being reversed.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses, this 6th day of June, 1908.

FRANK GORMAN.

In presence of—
W. J. Billingslea,
A. E. Salisburg.