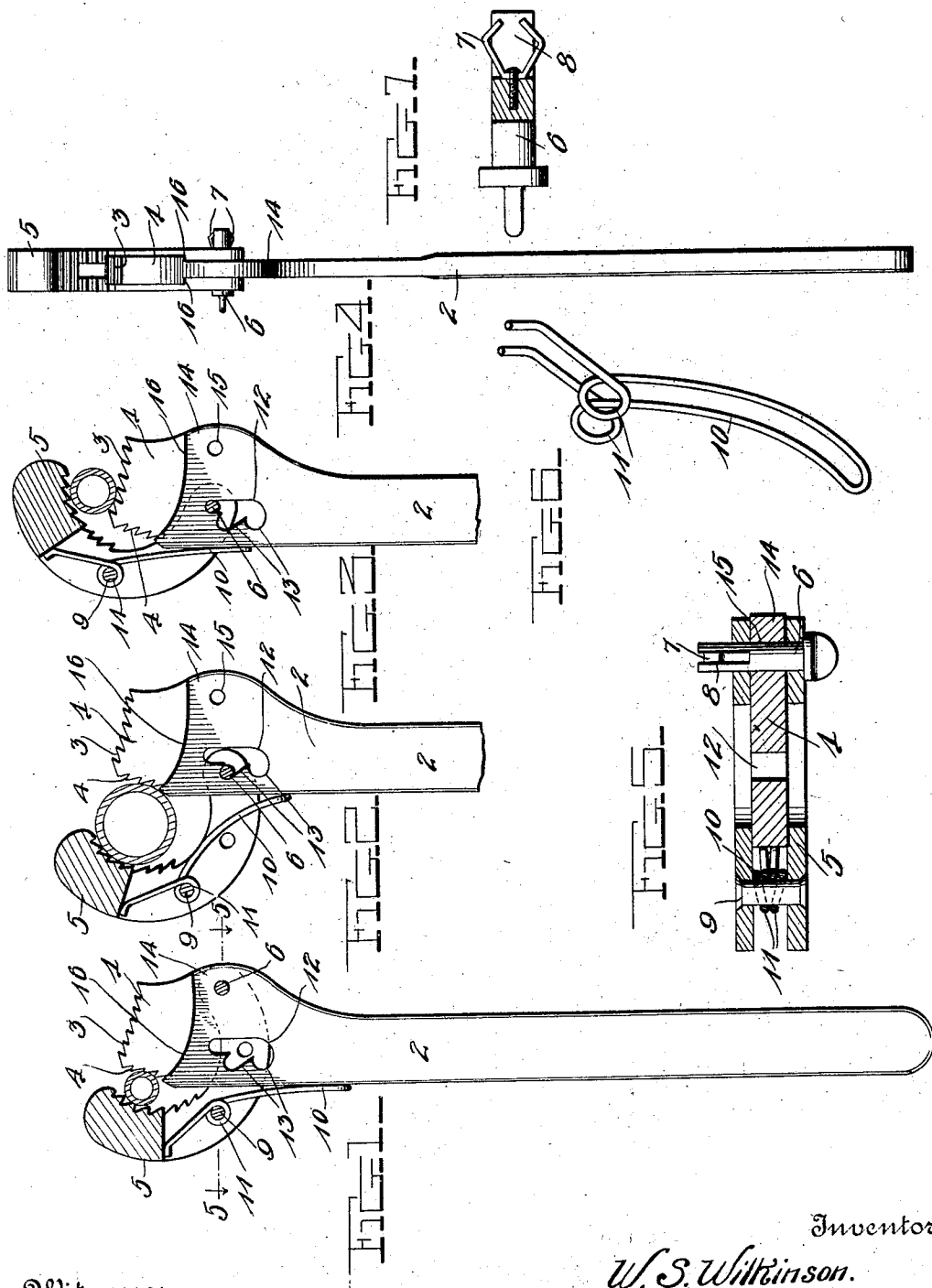


W. S. WILKINSON.
PIPE WRENCH.
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UNITED STATES PATENT OFFICE.

WILLIAM S. WILKINSON, OF AURORA, SOUTH DAKOTA.

PIPE-WRENCH.

1,037,387.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM S. WILKINSON, a citizen of the United States, residing at Aurora, in the county of Brookings and State of South Dakota, have invented certain new and useful Improvements in Pipe-Wrenches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in pipe wrenches, and the object thereof is to provide a simply constructed, durable and efficient wrench of this character which is adjustable and adapted to be quickly arranged for convenient adjustment in gripping large and small articles and which is provided with a stationary jaw having two working faces with either of which the movable jaw may be quickly moved to cooperate.

Another object is to provide improved means for detachably and reversibly connecting the movable jaw to the fixed jaw.

With these and other objects in view, the invention consists of certain novel features of construction and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings:—Figure 1 is a side elevation partly in section of a wrench constructed in accordance with this invention with the movable jaw arranged to cooperate with one of the working faces of the fixed jaw to engage a small pipe; Fig. 2 is a similar view with parts broken off and the movable jaw arranged for cooperation with the same working face of the fixed jaw to engage a large pipe; Fig. 3 is a similar view with the movable jaw arranged for cooperation with the other working face of the fixed jaw; Fig. 4 is an edge or front elevation of this improved wrench; Fig. 5 is a transverse section taken on the line 5—5 of Fig. 1; Fig. 6 is a perspective view of the spring used in connection with the movable jaw; Fig. 7 is a side elevation partly in longitudinal section of the pivot pin for the movable jaw.

In the embodiment illustrated, a fixed jaw 1 is shown, having an integral handle 2 adapted to be gripped by the operator for manipulating the wrench. This fixed jaw 1 is provided with a toothed gripping face 3 at its outer end, inclined slightly outward toward the rear edge of the jaw and prefer-

ably concaved as shown. Another gripping face 4 is provided at the rear edge of the jaw 1, extending from the rear outer end of the face 3 and inclined downwardly and outwardly therefrom.

At 5 is shown an arc-shaped movable jaw which is slotted or bifurcated to embrace the fixed jaw 1, its inner curved edge being toothed or serrated to form a gripping face for conjoint operation with either of the working faces 3 and 4 of the fixed jaw as shown in Figs. 1, 2 and 3, according to the size of the article to be gripped or the direction said article is to be turned.

A pivot pin 6 is passed through suitable openings in the movable jaw and fixed jaw to pivotally connect the two jaws together. This pivot 6 is in the form of a headed pin having a spring 7 mounted in the free opposite end thereof which is adapted to expand when the pin has been inserted and hold the parts in operative position securely against separation. When it is desired to remove the pin, the spring is pressed within the pin and the pin may then be readily withdrawn from its engagement with the jaws. This spring 7 is preferably in the form shown in Fig. 7, being substantially U-shaped, and the cross bar thereof secured to the inner end wall of the recess or slot 8 in the end of the pin 6 and the legs thereof are bowed outwardly intermediately of their ends, said bowed portions projecting normally beyond the sides of the pin, the free inner ends of said legs being housed within the slot 8 and, hence, all danger of their being bent outwardly or broken is avoided.

The movable jaw 5 is provided with a plurality of longitudinally spaced transverse apertures, three being here shown. A shiftable pivot pin 9 extends through the innermost one of these apertures and a spring 10 is pivotally mounted on this pin 9 between the bifurcated parts of the jaw 5. This spring 10 is preferably constructed as shown in Fig. 6 from a single piece of stiff wire which is bent intermediately of its ends to form a loop-shaped member, the arms of which have eyes 11 formed therein through which the pin 9 passes and pivotally connects said spring to the jaw 5. This spring 10 is preferably curved longitudinally and when applied, the doubled end thereof is adapted to bear against the outer edge of the fixed jaw 1 and the other end

engages the outer end wall of the slot of the jaw 5 and exerts its tension to force the jaw 5 into engagement with the jaw 1.

The fixed jaw 1 has a longitudinally extending slot 12 formed therein, the outer wall of which is provided with a plurality of notches; as 13, which form bearings for the fulcrum pin 6 of the jaw 5 when the parts are arranged in the position shown in Figs. 2 and 3. This fixed jaw 1 also has a lateral projection 14 at the edge opposite the slot 12 in which is provided a transverse aperture 15 for the reception of the pivot pin 6 when the parts are in the position shown in Fig. 1. The working faces of the fixed jaw 1 are preferably wider than the body portion of the jaw having shoulders, as 16, formed at their inner ends which are adapted to engage the inner edges of the bifurcated members of the movable jaw 5 and prevent the working faces of the fixed jaw from passing between the bifurcated members of the movable jaw.

In the operation of the wrench, the pin 6, being readily withdrawable, may be shifted into either of the bearings 13 or into the bearing 15, to operate on large or small articles, or to bring the working face of the movable jaw into coöperative relation with either of the working faces of the fixed jaw.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claims.

I claim as my invention.

1. A wrench comprising a fixed jaw and a movable jaw, a pin for pivotally connecting said movable jaw to said fixed jaw having an open slot in one end thereof, and a substantially U-shaped spring mounted in said slot and having the cross bar thereof fixed to the end wall of the slot, the legs of said spring being bowed outwardly to normally project through the slot on opposite sides of the pin for yieldably holding said pin in operative position.

2. A wrench comprising a fixed jaw having a concave, toothed gripping face at one end inclined slightly outward toward the edge of the jaw, and another gripping face on its rear edge extending from the rear outer end of said first mentioned face and inclined downwardly and outwardly therefrom, said fixed jaw also having a longitudinal slot near said gripping face with spaced bearings therein arranged near the opposite side edge, and a circular bearing hole transversely spaced from said slot, and an adjustable arc-shaped movable jaw having one end slotted to embrace the fixed jaw and having its working face concave, a shiftable pivot connecting its inner portion with any one of said bearings at will; a pin mounted across said slot of the movable jaw; and a spring, fulcrumed between its ends on said pin, and having one end bearing against the outer end wall of the slot, and the other end bearing against the rear face of the fixed jaw.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM S. WILKINSON.

Witnesses:

B. B. BAKER,
E. V. SOUTHARD.