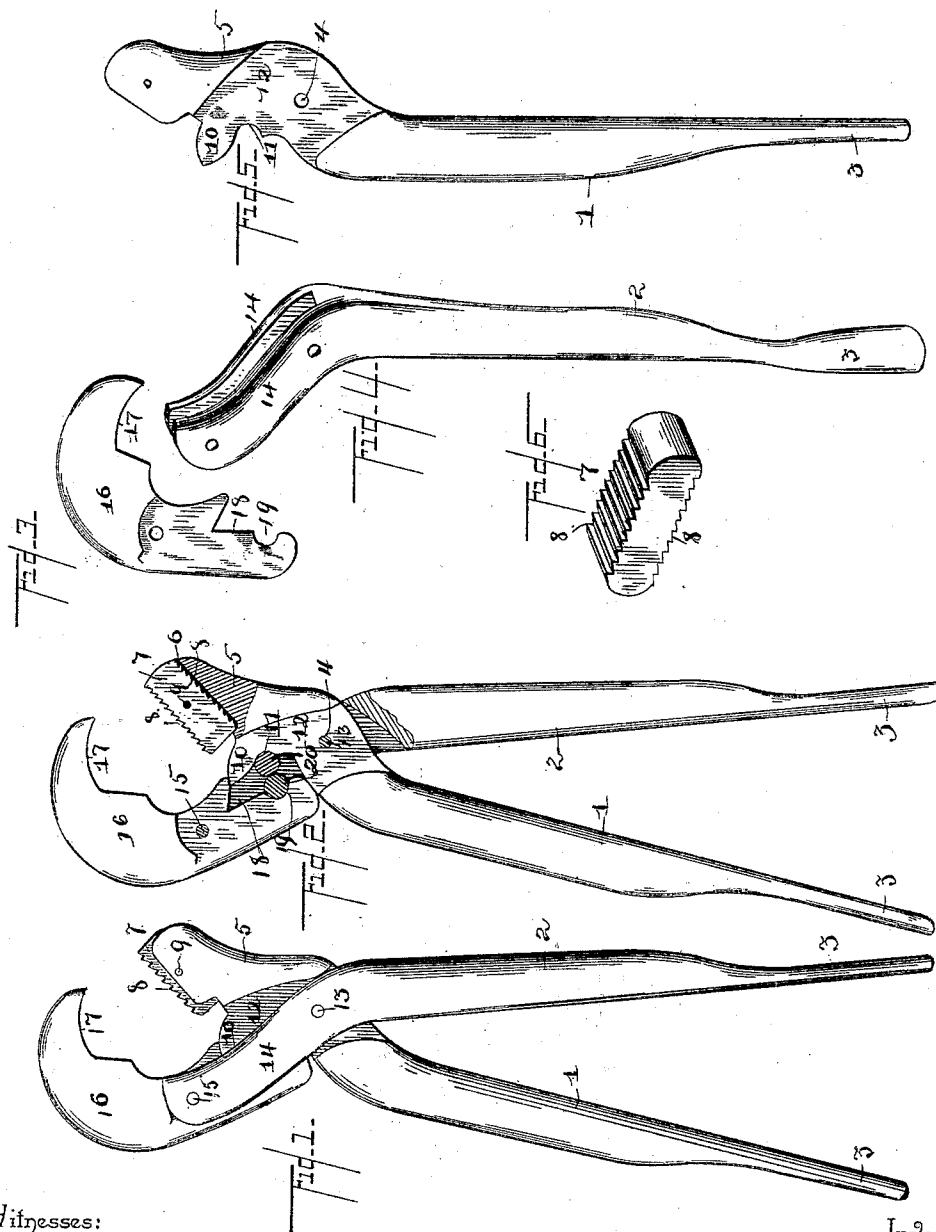


(No Model.)

G. W. JOHNSON.
PIPE TONGS.

No. 460,015.

Patented Sept. 22, 1891.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE W. JOHNSON, OF ERIE, PENNSYLVANIA.

PIPE-TONGS.

SPECIFICATION forming part of Letters Patent No. 460,015, dated September 22, 1891.

Application filed April 4, 1891. Serial No. 387,677. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. JOHNSON, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented a new and useful Pipe-Tongs, of which the following is a specification.

My invention relates to improvements in pipe-tongs, the object being to provide a pair of tongs of cheap, simple, and durable construction which will not unduly mar the pipe, and which may be easily operated to exert great binding pressure, all as will hereinafter appear, and be more particularly pointed out in the claims.

Referring to the drawings, Figure 1 is an elevation of a pair of tongs constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is an enlarged detail of the pivoted movable jaw. Fig. 4 is a detail of the member for supporting the same. Fig. 5 is a detail of the jaw-operating member. Fig. 6 is a detail of the removable dog.

Like numerals of reference indicate like parts in all the figures of the drawings.

In practice I employ, as usual, two members designated as the "jaw-operating member" 1 and the "jaw-supporting member" 2. This is for the purpose of convenience. These members are flattened at their inner ends to form handles 3, and the member 1, near its upper end beyond its pivot-hole 4, is offset or bent slightly to form a jaw 5. The jaw upon its inner face is recessed, as at 6, to removably receive a dog 7, toothed upon its opposite sides, as at 8, and held in removable position upon the recess 6 by a pin 9, which is also removable, so that, as will hereinafter appear, when one set of teeth is worn out the dog may be reversed and a new sharp set substituted. Immediately below the recessed jaw 6 there projects from the inner edge of the jaw a tongue 10, the upper and lower sides of which are convexed, so as to converge toward the extremity of the tongue. Below the tongue a half cylindrical or circular recess 11 is formed, and opposite the tongue and recess the member is thinned or recessed, as at 12, to pass between the outer bifurcated end of the member 2, to which it is pivoted by a pivot 13. The bifurcations 14 of the mem-

ber 2 are curved or offset opposite to the curved or offset ends of the member 1, and through their extremities is passed a pivot-pin 15.

16 designates the movable jaw, and the same is curved at its outer extremity and provided with recesses 17, adapting the jaw to operate in connection with the dog 7. Below the recesses 17 the inner edge of the jaw 16 is provided with a V-shaped recess 18, below which there is a half-circular recess or bearing 19. The lower half of the jaw 16 is recessed or thinned, so as to be received by the bifurcations 14 of the member 2, to which said jaw is pivoted by the pin 15.

When assembled in position, the oppositely-convexed tongue 10 lies between the opposite diverging sides of the V-shaped recess 18, and by opening and closing the members said tongue 10 operates upon either one of said walls in accordance with the direction in which it moves. By spreading the handles 3 the outer wall is operated upon, so that the jaw 17 is swung away from the jaw 5, and by closing the handles the inner wall of the recess 18 is operated upon, so that the jaw is closed. It will thus be seen that I have a compound leverage upon the jaw 16 and may exert great pressure with very little effort. The facility for creating this pressure is further improved by means of two small cylindrical rollers 20, one of which is mounted in each of the recesses 11 and 19 and have their peripheries in contact with each other, in which contact they roll or rotate. I thus avoid friction, so that all of the strength and energy exerted upon the handles is directed directly upon the jaws in a greatly-multiplied degree.

Having described my invention, what I claim is—

1. In a pipe-tongs, the combination, with opposite members, one of which is bifurcated to receive the other and pivoted at said bifurcation, of a jaw loosely pivoted between the bifurcations and at the ends of the same and provided with a V-shaped notch, the unbifurcated member being continued beyond the point of pivot to form a jaw and below the same provided with a conical finger or tongue for operating against the sides of the V-shaped recess, substantially as specified.

2. In a pipe-tongs, the combination, with the two members, one being bifurcated to receive the other and the two pivoted together at their point of intersection, of a loose jaw pivoted between the bifurcations of the bifurcated member, the unbifurcated member being provided with a projection for contacting with said pivoted jaw below its fulcrum, substantially as specified.
3. In a pipe-tongs, the combination, with one member terminating at its outer end in a bifurcation and a jaw pivoted at the extremity of the bifurcation and extending below its pivot, of a second member embraced by the bifurcation and pivoted thereto, extended beyond the bifurcations to form a jaw, and connections between the unbifurcated member and the inner end of the pivoted jaw, substantially as specified.
4. In a pipe-tongs, the combination, with the bifurcated member, the curved jaw pivoted to the bifurcation and extended beyond the same and provided with a semicircular recess or bearing, and an anti-friction roller mounted therein, of an unbifurcated member passed through and pivoted to the bifurcated member, terminating beyond the same in a jaw and below the jaw provided with a projection for contacting with the pivoted jaw below its pivot and below the projection with a curved recess, and an anti-friction roller mounted in the recess and having contact with and adapted to roll upon the roller of the curved jaw, substantially as specified.
5. The combination, with the two members, one of which is bifurcated to receive the other, and the pivot for the two, the unbifurcated member being extended beyond the pivot and offset to form a jaw having a recessed face and below the same provided with a V-shaped tongue and below the tongue with a semicircular bearing-recess, of a reversible bit serrated upon its opposite sides, removably mounted in the recess of the jaw, an anti-friction roller mounted in the bearing-recess, a curved jaw pivoted between the bifurcations and provided below the same with a V-shaped recess adapted to receive the V-shaped tongue of the opposite member and with a semi-cylindrical bearing-recess, and an anti-friction roller mounted therein and having contact with the roller of the opposite jaw, substantially as specified.
6. In a pipe-tongs, the combination, with the member 1, the curved jaw 16, pivoted to and extending beyond the same and provided with a recess or bearing, and an anti-friction roller mounted therein, of a member 2, pivoted to the member 1, terminating beyond the same in a jaw and below the jaw contacting with the pivoted jaw below its pivot and below the projection provided with a curved recess, and an anti-friction roller mounted in the recess and having contact with and adapted to roll upon the roller of the curved jaw, substantially as specified.
- In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.
- GEORGE W. JOHNSON.
- Witnesses:
W. W. JORDAN,
THOMAS WHITE.