J. JACKSON.

WRENCH.

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1,067,739. **Patented July 15, 1913.**

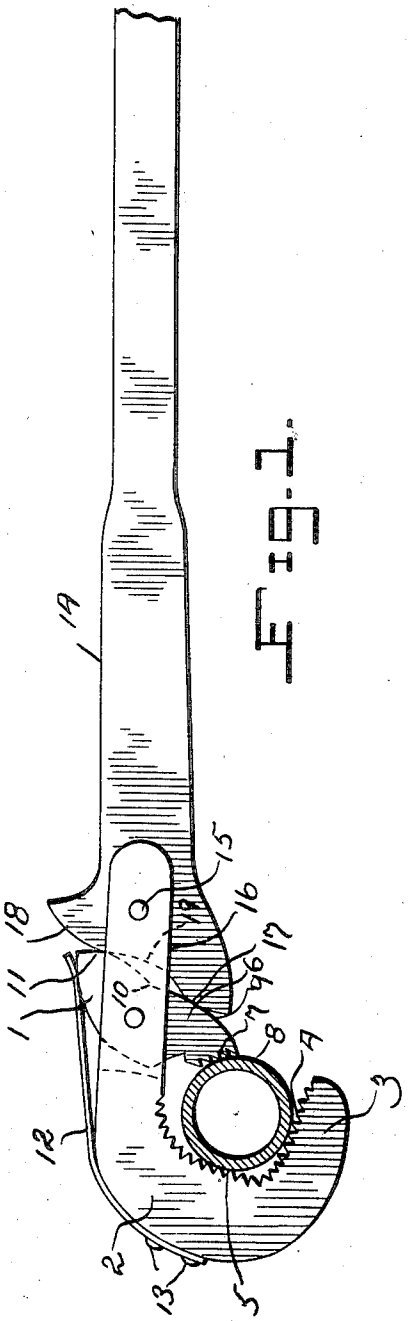


Fig. 1.

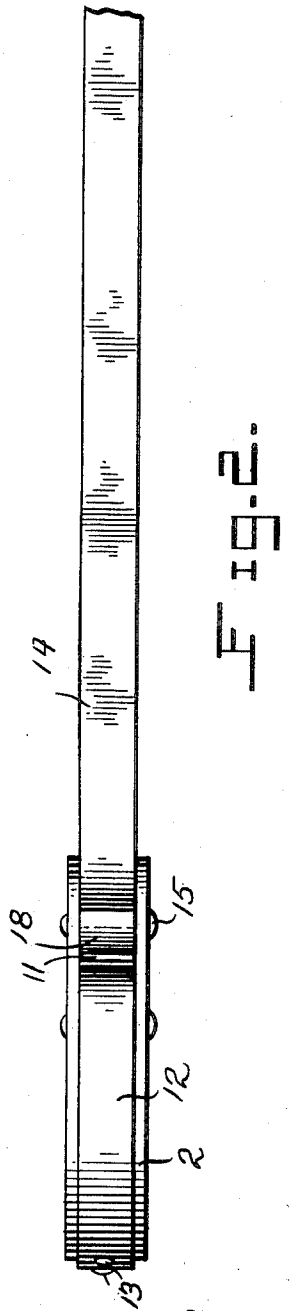


Fig. 2.

Witnesses

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To all whom it may concern:

Be it known that I, JOHN JACKSON, a subject of the Czar of Russia, residing at Leadville, in the county of Lake and State of Colorado, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to wrenches of the type known as pipe wrenches, and has for its object the provision of a wrench comprising a hook-shaped jaw having two of its sides substantially at right angles to one another, and a dog pivotally mounted on the stem of said hook-shaped jaw and adapted to coöperate with the right angled sides referred to to form the clamping members for the pipe or nut to be turned, and providing a handle pivotally mounted on the terminal of said hook-shaped jaw stem and coöperating with the dog to hold it in a clamping position when moved in one direction and release the dog from a clamping position when moved in the opposite direction.

My invention furthermore, provides a leaf spring secured to the hook-shaped jaw and engaging the dog aforesaid to normally hold it in clamping position.

My invention will be described in detail hereinafter and illustrated in the accompanying drawings, in which,

Figure 1 is a side view in elevation of my improved wrench showing it engaging the pipe; and Fig. 2, a rear edge view.

In the drawings similar reference characters will be used to designate corresponding parts throughout the several views.

My improved wrench comprises a hook-shaped member having a stem 1 that is bifurcated for the purpose hereinafter described, a base 2 extending at an obtuse angle to the stem 1 and an inwardly extending end 3 that has its bearing surface 4 at substantially a right angle to the bearing surface 5 of the base portion 2. Pivotally mounted in the bifurcated portion of the stem 1 is a clamping dog 6 having one of its terminals provided with a serrated surface 7 to engage a pipe 8 or other member to be actuated by the wrench. The inner edge of the dog 6 has a convex portion 9 adjacent to the clamping surface 7, a concaved portion 10 intermediate of the terminals of said dog, and a convex portion 11 adjacent to the terminal farthest removed from the clamping surface 7 for the purposes hereinafter described.

12 indicates a leaf spring secured as shown at 13 to the base portion 2 of the hook-shaped member heretofore described, the free terminal of said leaf spring 12 engaging the terminal of the dog 6 farthest removed from the clamping surface 7 and operating to hold said clamping surface 7 in a clamping position, normally.

Pivotally mounted between the bifurcated terminals of the stem 1 is a handle 14 having its outer terminal where pivotally mounted as at 15 formed wider and comprising a head engaging the dog 6, said head being designated 16 and having its under surface formed with a convex portion 17 that engages the convex portion 9 of the dog 6. The convex portion 18 of the handle 14 engages the convex portion 11 of the clamping dog 6 and an intermediate concaved portion 19 is arranged opposite the concaved portion 10.

In operation it will be apparent that when the handle 14 is swung rearwardly of the stem 1 so that the convex portion 18 engages the convex portion 11 to move the dog 6 against the resistance of spring 12, the clamping surface 7 on the inner terminal of the dog 6 will be raised to permit the wrench to engage a pipe or other member to be turned. Then when rearward pressure on the handle 14 is released, the spring 12 will tend to move the clamping surface 7 into engagement with the pipe 8 or other member to be turned and a continued forward movement of the handle 14 will operate to depress the clamping surface 7 into engagement with the pipe 8 by the engagement of the convex portion 17 with the convex portion 9 of the dog, and a continued movement of the handle 14 in a forward direction will operate to turn the pipe in the direction of the movement of the handle.

It will be apparent that as the clamping surfaces 4 and 5 of the hook-shaped member are at right angles to one another and the clamping surface 7 of the dog 6 is removed from said clamping surfaces 4 and 5 that the pipe 8 will be engaged at three different points on its surface and the strain exerted upon the pipe in rotating it will be thereby divided and furthermore, the danger of the pipe being forced from engagement with the jaws will be entirely eliminated by the construction of the hook-shaped member especially in relation to the clamping surfaces 4 and 5.

Having thus described my invention what I claim is:—

In a pipe wrench, the combination with a handle, of an outer jaw pivotally mounted on said handle, an inner jaw pivoted intermediate its ends to said outer jaw and engaging said handle, a leaf spring secured to the outermost portion of said outer jaw and engaging the outer end of said inner jaw and normally holding said inner jaw into clamping engagement and said spring adapted to allow the inner jaw to be moved out of clamping engagement upon the movement of the handle in one direction.

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

JOHN JACKSON.

Witnesses:

THOS. F. WARD,

OSCAR WILLIAMS.