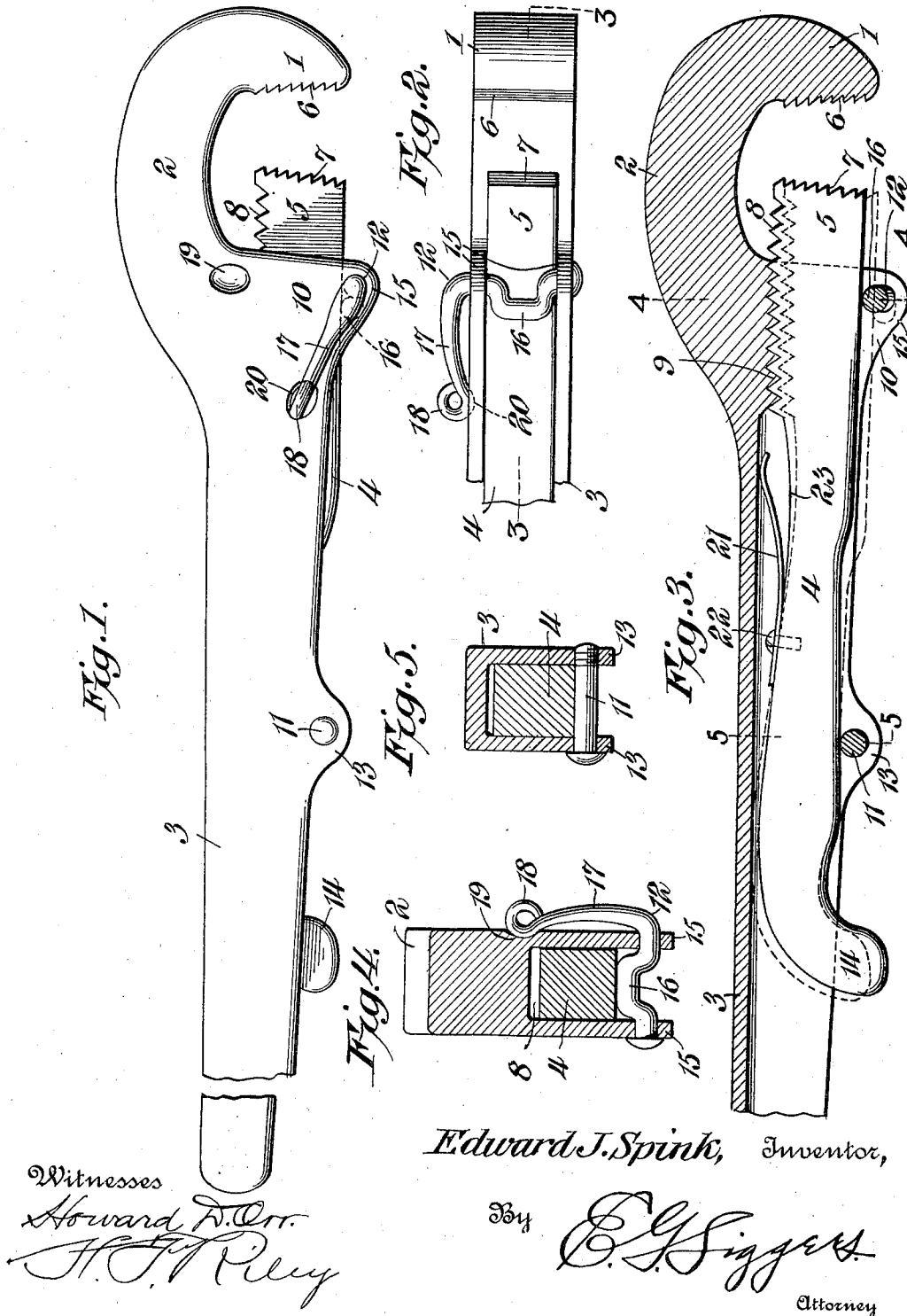


E. J. SPINK.
PIPE WRENCH.
APPLICATION FILED APR. 20, 1911.

1,038,671.

Patented Sept. 17, 1912.



UNITED STATES PATENT OFFICE.

EDWARD J. SPINK, OF COUNCIL BLUFFS, IOWA, ASSIGNOR OF ONE-THIRD TO JOSEPH A. MILLER AND ONE-THIRD TO ROBERT S. HUMPHREY, BOTH OF COUNCIL BLUFFS, IOWA.

PIPE-WRENCH.

1,038,671.

Specification of Letters Patent.

Patented Sept. 17, 1912.

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To all whom it may concern:

Be it known that I, EDWARD J. SPINK, a citizen of the United States, residing at Council Bluffs, in the county of Pottawattamie and State of Iowa, have invented a new and useful Pipe-Wrench, of which the following is a specification.

The invention relates to improvements in pipe wrenches.

The object of the present invention is to improve the construction of pipe wrenches, and to provide a simple, inexpensive and efficient pipe wrench of great strength and durability, capable of easy and rapid adjustment, and adapted to release itself automatically from a pipe when the strain on the parts of the wrench is removed.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a side elevation of a pipe wrench constructed in accordance with this invention. Fig. 2 is a front elevation of the wrench. Fig. 3 is a central longitudinal sectional view on the line 3—3 of Fig. 2. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 3. Fig. 5 is a similar view on the line 5—5 of Fig. 3.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

In the accompanying drawing in which is illustrated the preferred embodiment of the invention, 1 designates a transversely disposed fixed jaw, connected at the inner or rear end by a curved longitudinal portion 2 with a hollow shank or bar 3, which constitutes the handle of the wrench. The shank or bar 3, which is approximately U-shaped in cross section, receives a shank or bar 4 of a movable jaw 5, adjustable longitudinally of the wrench toward and from the fixed jaw, which is provided at its inner engaging face with teeth 6, shouldered at their inner ends and beveled at their outer

sides. The movable jaw is provided at its engaging face with teeth 7, shouldered at their outer ends and beveled at their inner ends, whereby when the wrench is placed under strain, the latter will operate to carry a longitudinal series of teeth 8 of the movable jaw into engagement with corresponding teeth 9 of the fixed shank or bar. The teeth 8, which consist of a straight series, are located at the inner longitudinal edge of the adjustable jaw, and they extend inwardly from a point adjacent to the engaging face of the jaw 5 and are oppositely beveled. The shank or bar of the fixed jaw is approximately U-shaped in cross section, being composed of two sides and a connecting back portion, and the sides are enlarged at 10 at the inner end of the curved portion 2. The teeth 9 are arranged between the enlarged portions of the sides of the fixed shank or bar, and they extend longitudinally of the back of the same, and are oppositely beveled to conform to the configuration of and interlocked with the longitudinal series of teeth of the movable jaw.

The adjustable shank or bar 4, which is movable longitudinally of the fixed shank or bar in the space between the sides thereof, is retained therein by means of a transverse pin 11 and a locking device 12. The pin 11 is located at a point intermediate of the ends of the fixed shank or bar at the edges of the sides of the same, and it passes through extensions or ears 13, having registering perforations for the reception of the said pin 11. The inner end 14 of the adjustable shank or bar is curved outward, and it projects slightly beyond the fixed shank or bar, and it serves as a handle for adjusting the movable jaw inwardly and outwardly. The inner portion of the fixed shank or bar is smooth and forms a handle for operating the wrench.

The locking device consists of a shaft or pin mounted in projecting ears or portions 15 of the enlargements 10, and provided between the same with a crank bend 16, forming a cam and adapted to be swung to a position transversely of the wrench for locking the movable shank or bar in engagement with the teeth of the fixed shank or bar. The locking device 12 is provided with a resilient arm 17, curved longitudinally, as shown, and provided at its free end with an eye or head 18, adapted to engage depres-

sions or recesses 19 and 20 of the rigid shank or bar for locking the adjustable shank or bar in engagement with the same and for holding the locking device in its non-engaging position to permit free movement of the adjustable shank or bar.

It is not necessary to lock the adjustable shank or bar in engagement with the fixed shank or bar, as the slightest strain on the movable jaw will carry the teeth 8 into engagement with the teeth 9 and will maintain such teeth in engagement, so that there will be no liability of the parts accidentally slipping. The wrench may be quickly applied to and used on a pipe or rod without operating the locking device, but when it is desired to operate on work of a certain size, the wrench may be adjusted to fit the work and may be locked in such adjustment. As soon as the movable jaw is relieved of strain, its shank or bar is automatically carried out of engagement with the fixed shank or bar by means of a spring 21, interposed between the movable shank or bar and the fixed shank or bar, and secured at its inner end to the former by means of a screw 22, or other suitable fastening device and having its one end free and bearing against the inner face of the back portion of the fixed shank or bar. The inner longitudinal edge 23 of the movable shank or bar is curved longitudinally and presents a concave face and provides a space to receive the spring 21, which automatically disengages the movable shank or bar from the fixed shank or bar as soon as the wrench is relieved of strain. The longitudinal series of teeth of the fixed and movable shanks or bars are arranged adjacent to the center of the strain on the wrench, and the strain incident to the use of the wrench is borne by the teeth 8 and 9, while the locking device and the transverse fastening device are not subjected to any material strain. This will enable the locking device and the transverse fastening device to be constructed of light material, as there is no liability of such parts becoming broken in the use of the wrench.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is—

1. A wrench including a fixed jaw having a hollow shank provided at the back with interiorly arranged teeth, an adjustable jaw cooperating with the fixed jaw and having a shank slidable along the hollow shank between the sides thereof and fitting against the back of the same and provided at its rear edge with teeth adapted to interlock with the teeth of the hollow shank and arranged to be carried into engagement with the same by the strain on the movable jaw in the operation of the wrench, and a spring secured to the movable shank and bearing against the fixed shank to disengage the

shanks automatically from each other when the wrench is relieved of strain.

2. A wrench including a fixed jaw having a hollow shank provided at the back with interiorly arranged teeth, a movable jaw cooperating with the fixed jaw and having a shank slidable along the hollow shank between the sides thereof and fitting against the back of the same and provided at its rear edge with teeth adapted to interlock with the teeth of the hollow shank and arranged to be carried into engagement with the same by the strain on the movable jaw in the operation of the wrench, and a locking device mounted on the fixed shank and arranged to lock the teeth of the movable shank in engagement with the teeth of the fixed shank.

3. A wrench comprising a fixed jaw provided with a hollow shank composed of spaced sides and a connecting back portion provided with interiorly arranged teeth, an adjustable jaw having a shank slidable longitudinally in the space between the sides of the fixed shank and fitting against the back of the same and provided at the back with teeth, and a locking device extending across the space between the sides of the fixed shank and having a crank bend arranged between the sides of the fixed shank and adapted to bear against the movable shank to lock the teeth thereof in engagement with the teeth of the fixed shank.

4. A wrench including a fixed jaw provided with a hollow shank having spaced sides and a connecting back portion provided with interiorly arranged teeth, said shank being also provided with exterior depressions, a movable jaw having a shank slidable in the hollow fixed shank and provided at the rear edge with teeth, and a locking device mounted on the fixed shank and composed of a portion operating between the sides of the fixed shank to hold the teeth of the movable shank in engagement with the teeth of the fixed shank, and an exteriorly arranged resilient operating arm movable to and from the said depressions and adapted to engage with the same to hold the locking device in or out of engagement.

5. A wrench including a fixed hollow shank composed of spaced sides and a connecting back portion provided with interiorly arranged teeth located at the outer end of the fixed shank, a fixed transverse jaw provided at its inner end with an integral portion extending longitudinally of the wrench and connecting the jaw with the outer end of the said fixed hollow shank, a movable jaw having a shank arranged within the hollow shank and provided at the back with a straight longitudinal series of teeth arranged to engage with the teeth of the fixed shank, the rear

edge of the shank of the movable jaw being also curved to provide a space between it and the back of the fixed shank, a spring secured to the shank of the movable jaw in the said space and bearing against the back of the fixed jaw, and means extending across the space between the sides of the fixed shank to retain the shank of the movable jaw in place.

6. A wrench including a fixed jaw having a relatively fixed shank, a movable jaw cooperating with the fixed jaw and provided with a shank movable along and fitting against the fixed shank, and a locking device carried by the fixed shank at the front

thereof and composed of a transverse portion having a crank bend arranged in front of the movable shank to clamp the same in engagement with the fixed shank, and a resilient arm extending from one end of the transverse portion for holding the latter in engagement with the movable shank.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

EDWARD J. SPINK.

Witnesses:

FRED JOHNSON,
LEWIS J. PATTERSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
