

J. G. BAKER.
 LOST MOTION TAKE-UP FOR TOOLS.
 APPLICATION FILED AUG. 6, 1913.

1,141,602.

Patented June 1, 1915.

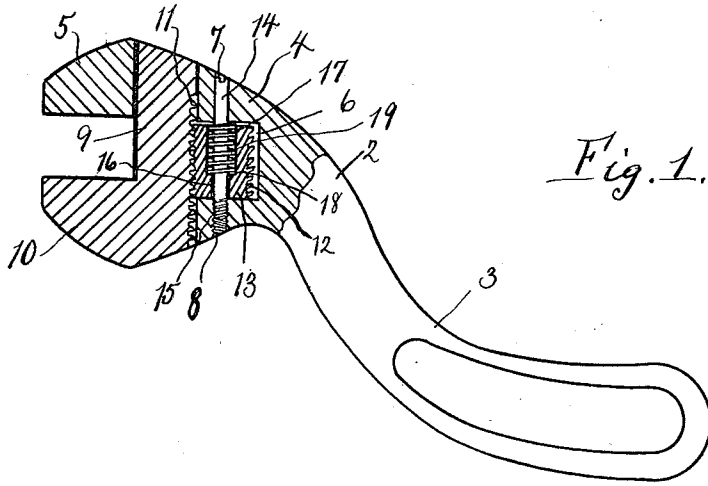


Fig. 1.

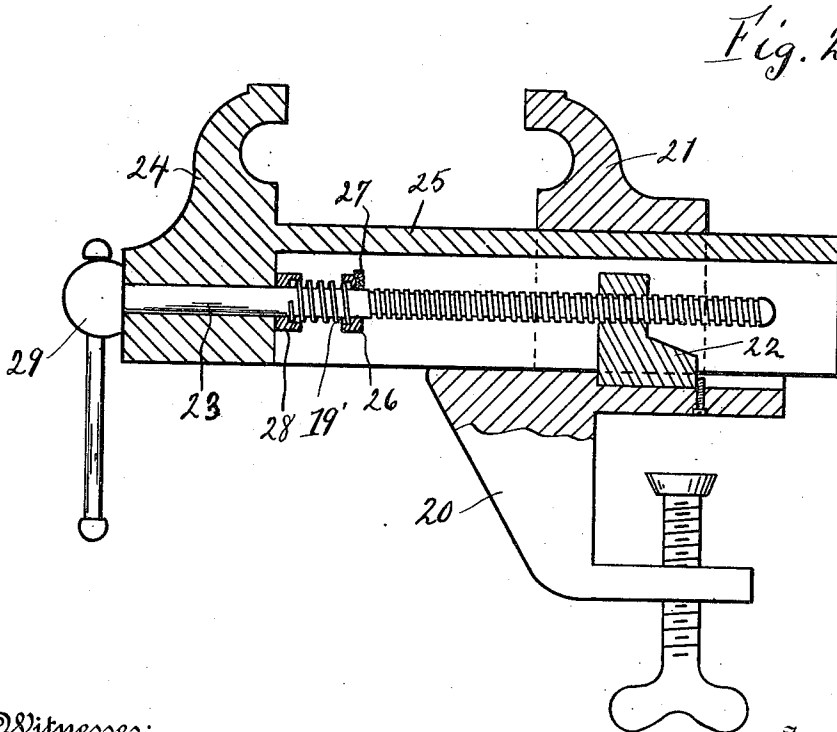


Fig. 2.

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UNITED STATES PATENT OFFICE.

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LOST-MOTION TAKE-UP FOR TOOLS.

1,141,602.

Specification of Letters Patent.

Patented June 1, 1915.

Application filed August 6, 1913. Serial No. 783,422.

To all whom it may concern:

Be it known that I, JOSEPH G. BAKER, a citizen of the United States, residing at Allentown, in the county of Lehigh and State of Pennsylvania, have invented new and useful Improvements in Lost-Motion Take-Up for Tools, of which the following is a specification.

My invention relates to new and useful improvements in lost motion take up for tools, and has for its object to provide an exceedingly simple and effective device of this character, whereby all lost motion will be eliminated between the movable jaw and the operating screw, and I have shown my invention applied to a wrench and a vise, but it can be applied to other tools of this same general class without changing the principles of the invention.

A further object of the invention is to provide a device of this character which will be relatively inexpensive in the cost of manufacture yet strong and durable and exceedingly compact, and so arranged as not to change the appearance of the tool.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by numeral to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a longitudinal sectional view of one form of a wrench showing my invention applied thereto; and Fig. 2, is a similar view of a vise.

In carrying out my invention as illustrated in Fig. 1, 2 represents a wrench having a handle 3, a head 4 and a stationary jaw 5 projecting from said head. In the head 4 is formed the cavity 6, in which is situated the operating screw, and leading to said cavity are the openings 7 and 8, the latter being threaded. In the head 4 is slidably mounted the shank 9 of the movable jaw 10, said shank having sectional threads or teeth 11 formed on its inner edge, which projects into the cavity 6 and mesh with the threads 12 on the operating screw 13, said operating screw being rotatably

mounted upon the journaled screw 14 having a threaded end 15 which is threaded into the opening 8. The operating screw 13 has an opening 16 running part way there-through, and another opening 17 of greater diameter than the first named opening, the latter running the rest of the way through the operating screw and forming a shoulder 18 against which rests one end of the helical spring 19 coiled about the journaled screw 14, while the opposite end rests against one of the side walls of the cavity 6. From this description it will be seen that the helical springs 17 forces the operating screw 13 away from one side wall and against the opposite side wall of the cavity 6, so that when said operating screw is manipulated to force the movable jaw 10 into contact with the work, the thrust will be against the side wall of the cavity 6 on which the end of the operating screw is held in contact with, thus eliminating the lost motion between the operating screw and the working face of the movable jaw.

In Fig. 2 I have illustrated my invention as applied to a vise, in which 20 denotes the frame carrying the stationary jaw 21 and the fixed nut 22, into which is threaded the operating screw 23, the latter being journaled in the movable jaw 24, the slide of which is mounted in the frame 21. On the operating screw 23 is mounted the washer 26 held in its adjusted position by a set screw 27 and against this washer rests one end of the helical spring 19' which is coiled about the operating screw 23, and the opposite end of said spring rests against a loose washer 28 mounted upon the operating screw 23 and bearing against the inner face of the jaw 24, so that the head 29 of the operating screw is forced against the outer face of the movable jaw 24, thereby taking up any lost motion between the operating screw and the working face of the movable jaw 24. As will be readily understood this device may be applied to tools of different construction with slight variations in the working parts as well as to tools of this same general class, without changing the principles of my invention.

Of course I do not wish to be limited to the exact details of construction as herein shown, as these may be varied within the limits of the appended claims without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful, is—

1. In a device of the character stated a wrench comprising a handle, a head having a cavity therein, a stationary jaw projecting from said head, a movable jaw provided with a shank slidably mounted in the head, said shank having sectional threads which project into the cavity, an operating screw provided with an opening passing part way therethrough, another opening of greater diameter passing the remainder of the way therethrough, thereby forming a shoulder, a journaled screw threaded into the head and passing through said openings in the operating screw, a helical spring coiled about the journaled screw, one end thereof resting against the shoulder, and the opposite end against one of the side walls of the cavity in the head, thereby taking up the lost motion between the operating screw and the working face of the movable jaw.
2. A wrench comprising a head having a cavity therein, an integral handle formed therewith, a stationary jaw projecting from said head, a movable jaw slidably mounted in said head and provided with sectional

threads, an adjusting screw of less length than the cavity in the head mounted in said cavity and arranged to coact with the sectional threads for operating the movable jaw, said screw having a central bore therethrough of two different diameters to produce a shoulder, a screw mounted in the head for journaling the adjusting screw thereon, and a helical spring coiled about the journaled screw and contained within the larger portion of the bore in the adjusting screw, one end of said spring resting against the shoulder within the adjusting screw and the other end against one of the walls of the cavity in the head, whereby said adjusting screw is forced toward the stationary jaw for taking up the lost motion between the operating screw and the working face between the movable jaw.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

JOSEPH G. BAKER.

Witnesses:

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