(Model.)

A. L. DUNCAN.

WRENCH.

No. 396,689. Patented Jan. 22, 1889.

Fig 1

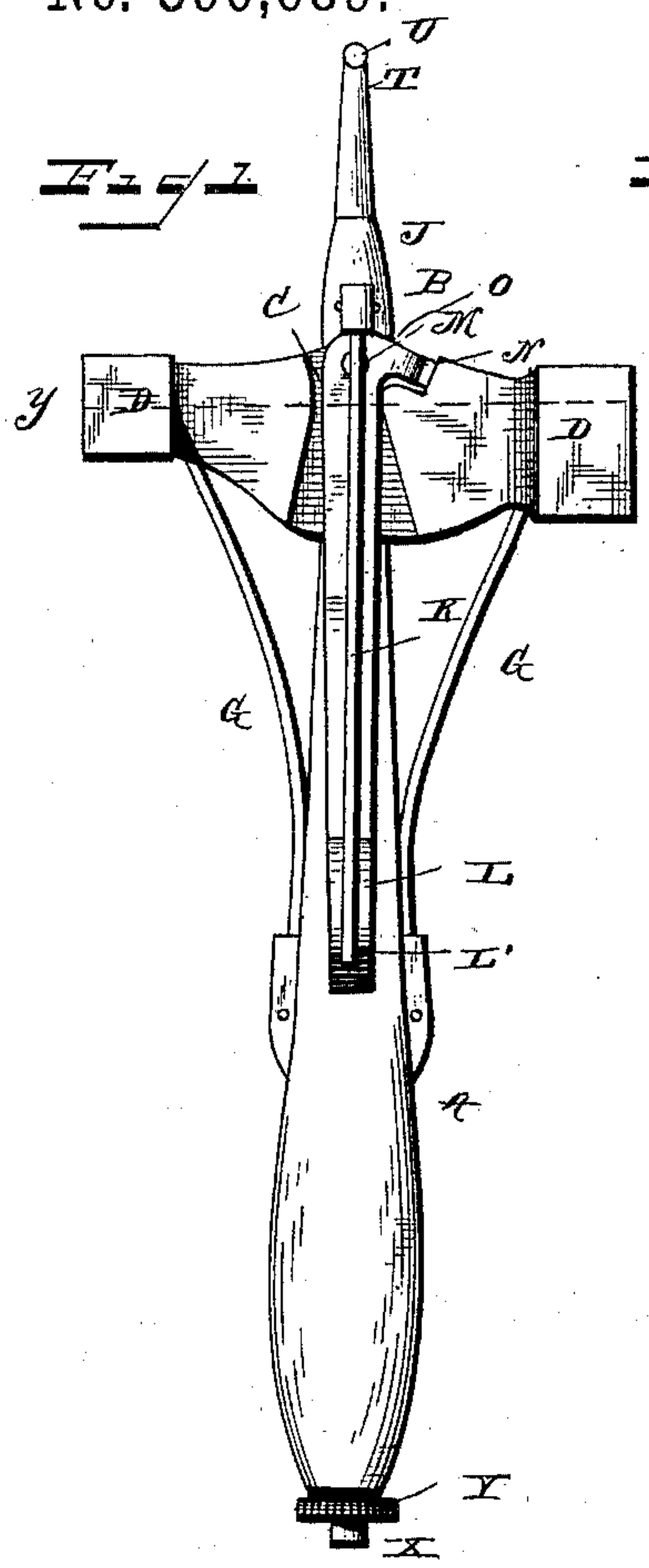


Fig 2

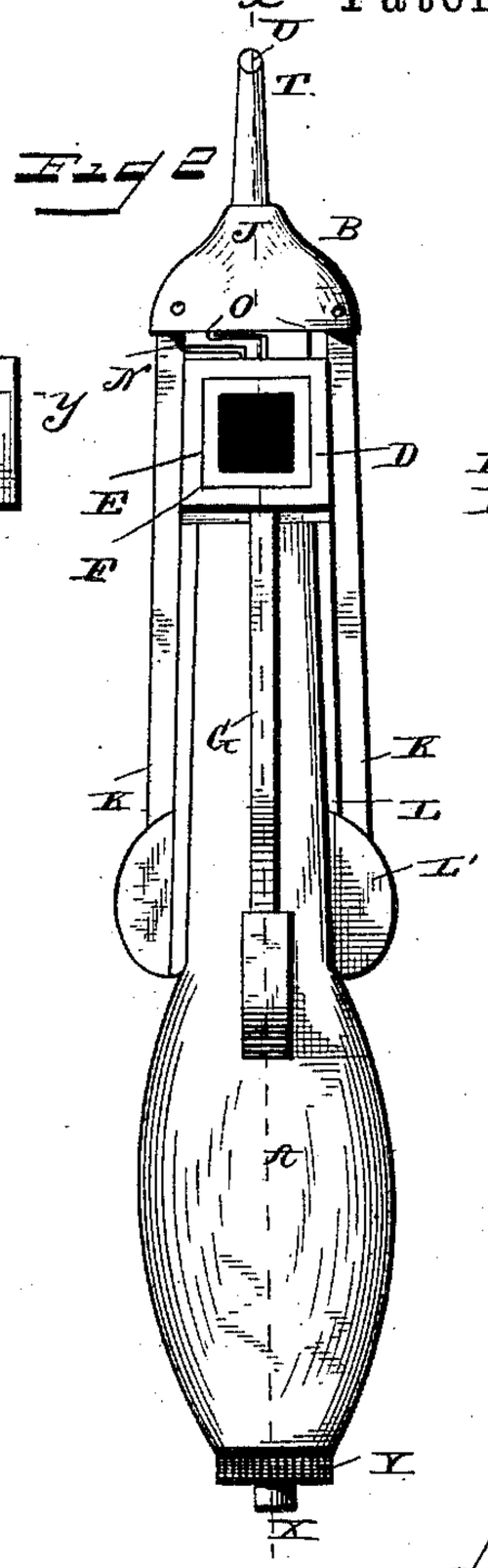


Fig 3

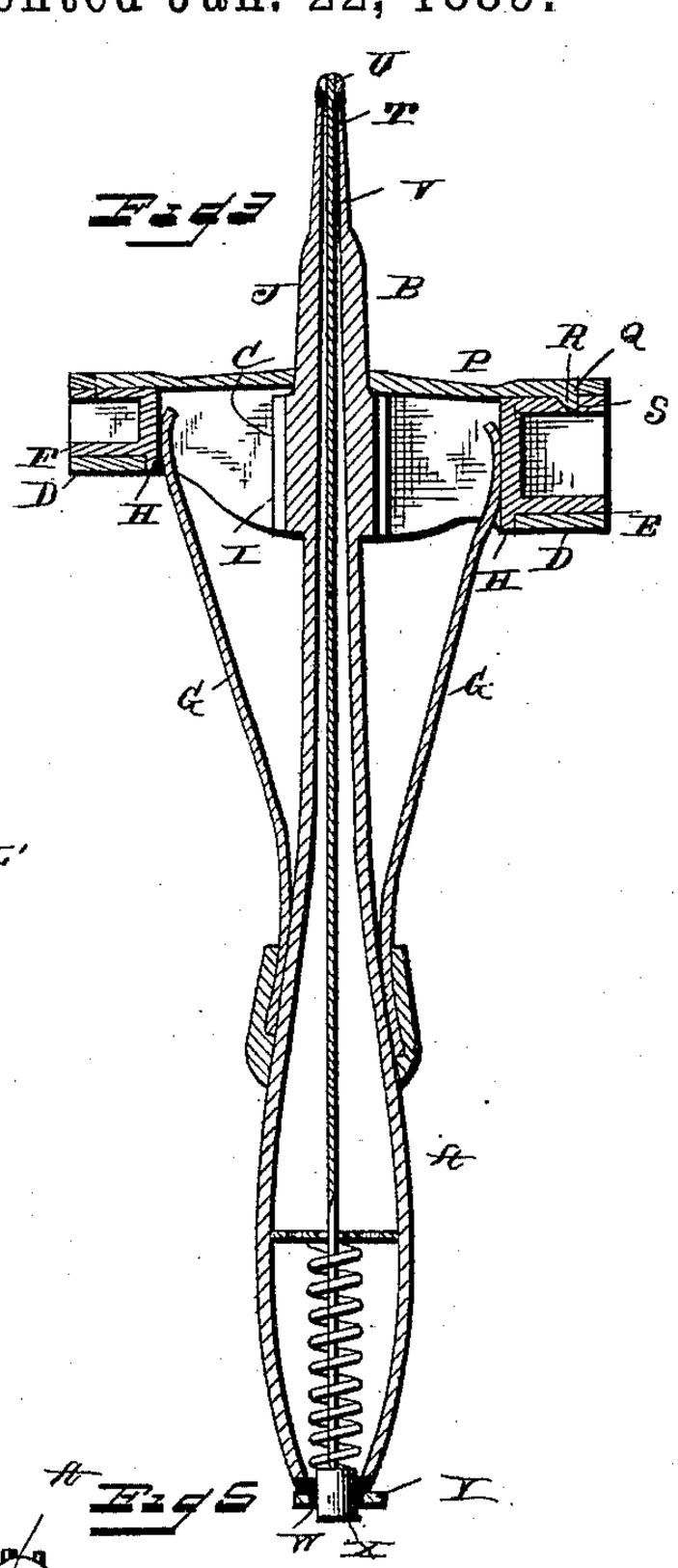


Fig 4

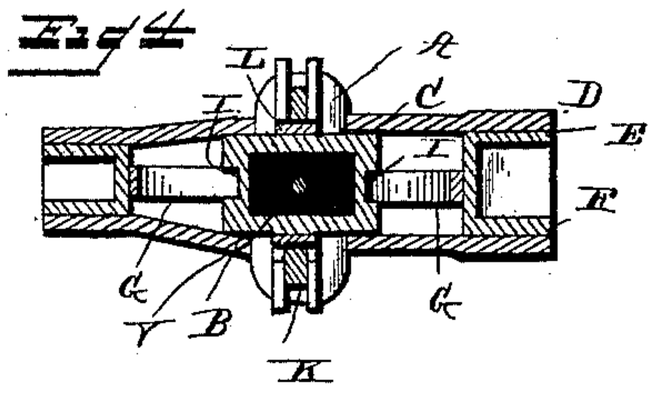


Fig 5

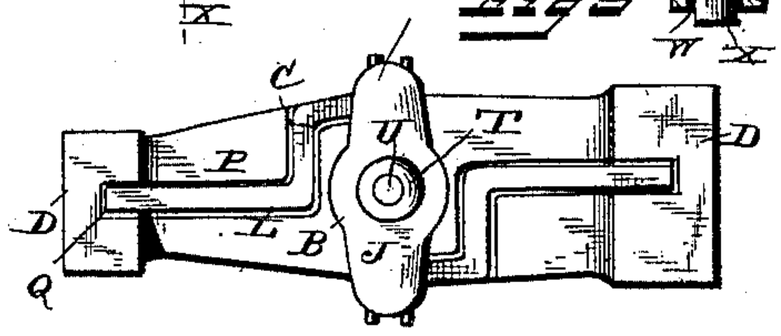
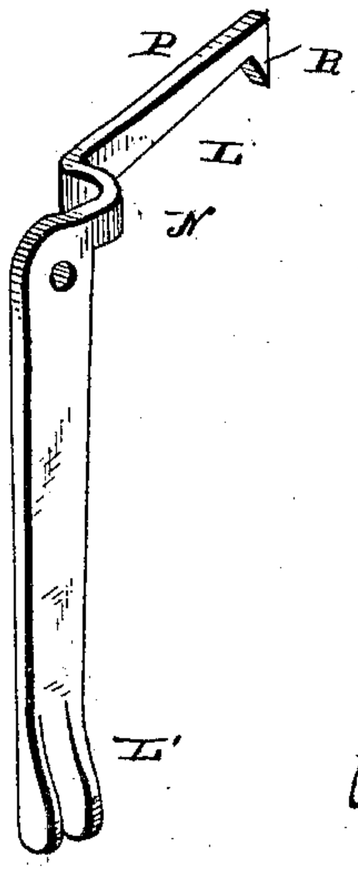


Fig 6



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UNITED STATES PATENT OFFICE.

ALEXANDER L. DUNCAN, OF ROSCOE, NEW YORK, ASSIGNOR OF ONE-HALF TO THOMAS L. LINDSAY, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 396,689, dated January 22, 1889.

Application filed April 16, 1888. Serial No. 270,795. (Model.)

To all whom it may concern:

Be it known that I, ALEXANDER L. DUNCAN, a citizen of the United States, and a resident of Roscoe, in the county of Sullivan and State of New York, have invented certain new and useful Improvements in Wrenches; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation of my improved wrench. Fig. 2 is a similar view at right angles to the view shown in Fig. 1. Fig. 3 is a longitudinal sectional view on the broken line denoted by the letters *x x* in Fig. 2. Fig. 4 is a horizontal sectional view on line *y y* in Fig. 1. Fig. 5 is a top view, and Fig. 6 is a perspective detail view, of one of the levers detached.

Like letters of reference denote corresponding parts in the several figures.

My invention has relation to wrenches of that class in which the jaws surround the nut or bolt-head on all sides, thus giving an even bearing to all sides of the nut or bolt-head; and it consists in the improved construction and combinatien of parts of a wrench of that type, as will be hereinafter more fully set forth.

Reference being had to the accompanying drawings, the letter A designates the handle, which may be of any convenient shape, and B the shank or stem, of my improved wrench. The upper part of the stem is enlarged to form bearings C C for the fixed jaws, (designated by the letters D D.) The outer ends of said jaws form square boxes, as shown at E, and within these boxes are located the movable chucks F, which fit in the exterior boxes, E E, and are adapted to slide forward and back in the same.

Upon opposite sides of the handle or shank of the wrench are suitably fastened two springs, G G, the upper free ends of which project into the lower open part of the fixed jaws and bear with their free ends against the movable chucks F F. These chucks are provided with projecting flanges, as shown at H, which, by bearing against the under side of the box within which the said chucks slide, prevent them from being forced out of said box. In order to accommodate the free ends of these springs G when the chucks are forced inward in their respective jaws, the bearings C C are slotted longitudinally, as shown at I, so as to form recesses adapted to receive the free ends of the springs.

The upper part of the shank forms a cross-head, J, fastened in the under side of which, on each side of the shank, is a spring, K, the lower free end of which is suitably attached to the lower end of a lever, L, the upper end of which is fulcrumed upon a pin or stud, M, projecting at right angles from the wrench-shank below the cross-head above referred to. Each of these spring-actuated levers L is provided with a right-angled elbow or projection, N, which bears against an offset or shoulder, O, in the upper part of each of the fixed jaws.

By reference to Fig. 6 it will be seen that the elbow or projection N is bent at right angles, and then again bent in the same direction, so as to form a projecting arm, P, which plays in a slot, Q, in the top part of each of the fixed jaws. At the outer end of each of these arms P is a finger, R, projecting downwardly at right angles through the slot in the fixed jaw, and adapted to engage a slot or aperture, S, in the movable chuck F. It will be seen that when the levers L are in their normal position, parallel to and on opposite sides of the wrench shank or handle, these fingers R will engage the apertures S, and thereby hold the movable chucks in their normal position at the outer end of the box within which they respectively slide.

It will also be seen that by pressing the lower ends of the levers to one side, in the direction indicated by the arrows, their arms P will be tilted so as to release or disengage the fingers R from the movable chucks, which may then be pushed backward into the recesses of the fixed jaws, so as to permit the box itself to engage the nut or bolt which is to be turned.

For the sake of convenience I construct the

lower parts of the levers L with slotted projections L′, the slots of which receive the free ends of the springs K. This forms a convenient means of attachment for the free ends of said springs, and also a convenient thumb-piece for pushing the levers sidewise.

The jaws D D, with their boxes, are made of different sizes to fit different-sized nuts or bolt-heads, and by means of the movable chucks I provide them to fit other sizes of nuts, so that one wrench with its pair of chucks may be used for four different sizes of nuts. Its utility may be largely increased, however, simply by removing the movable chucks and substituting others, each wrench being furnished with a number of these detachable and interchangeable chucks, so as to accommodate nuts of all sizes.

The handle A is hollow, as shown in Fig. 3, so as to form an oil-can, terminating in a spout, T, which is closed by a knob or ball, U, having a leather or rubber washer on its under side, so as to fit tightly against the spout or nozzle and prevent leakage. A thin rod, V, is fastened in the under side of this knob and extends through the nozzle and through the hollow handle to the lower end of the same, where it projects through the aperture W, so as to form a projecting button, X. The hollow handle is filled with oil and is provided with a milled nut, Y, which is also provided with a leather or rubber washer to prevent leakage of the oil; and the button X, where it projects through this nut, is in like manner provided with a rubber or leather packing to prevent leakage. By simply pressing with the thumb upon the button X the nozzle of the can will be opened, so that oil may be applied at the option of the operator.

By constructing the wrench-handle in this manner I make this device serve a twofold purpose—viz., a wrench and oil-can combined. In working nuts, &c., it is frequently desirable to apply a little oil to facilitate unscrewing of the nut; but by having the oil-can right with and as a part of my improved wrench no separate oil-can is required, and the trouble and labor in carrying one along are obviated.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination of the wrench handle or stem, the fixed jaws projecting at right angles from the same and provided with hollow boxes at their outer ends, the movable chucks sliding in said hollow boxes, and the springs pressing with their free ends against the back part of the movable chucks, substantially as and for the purpose herein shown and set forth.

2. The combination of the wrench handle or stem, the fixed jaws projecting at right angles from the same, and provided with a hollow box at their outer ends, the movable chucks sliding in said hollow boxes, and the levers provided with right-angled projections adapted to engage the sliding chucks and to fix the same in their position within the jaws, substantially as and for the purpose shown and set forth.

3. The combination, in a wrench having recessed jaws, of the movable chucks and the spring-actuated levers adapted to lock the chucks in position within the recessed jaws, substantially as and for the purpose shown and set forth.

4. The improved wrench herein shown and described, consisting, essentially, of the following elements: a stem or handle, recessed jaws fixed upon and projecting from opposite sides of the same, the movable chucks, the springs bearing with their free ends against said chucks, the elbow-levers adapted to engage and lock the chucks in their position within the recessed jaws, and the springs engaging with their free ends the lower ends of said levers, the whole constructed and combined to operate substantially in the manner and for the purpose shown and set forth.

5. The improved wrench herein shown and set forth, consisting, essentially, of the following elements: a tubular stem or handle adapted to form an oil-receiver, recessed jaws fixed upon and projecting from opposite sides of the same, the movable chucks, the springs bearing with their free ends against said chucks, the elbow-levers adapted to engage and lock the chucks in their position within the recessed jaws, the springs engaging with their free ends the lower ends of said levers, the milled nut at the lower end of the handle, the rod extending through the handle and provided at its lower end with a button projecting through the milled nut, and the knob or button at the upper end of said rod adapted to close the nozzle which forms the outlet of the oil-receiver within the handle, all constructed and combined to operate substantially in the manner and for the purpose herein shown and set forth.

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

ALEXANDER L. DUNCAN.

Witnesses:

THOMAS L. LINDSAY,

DEMETRIUS D. DE SILVY.