

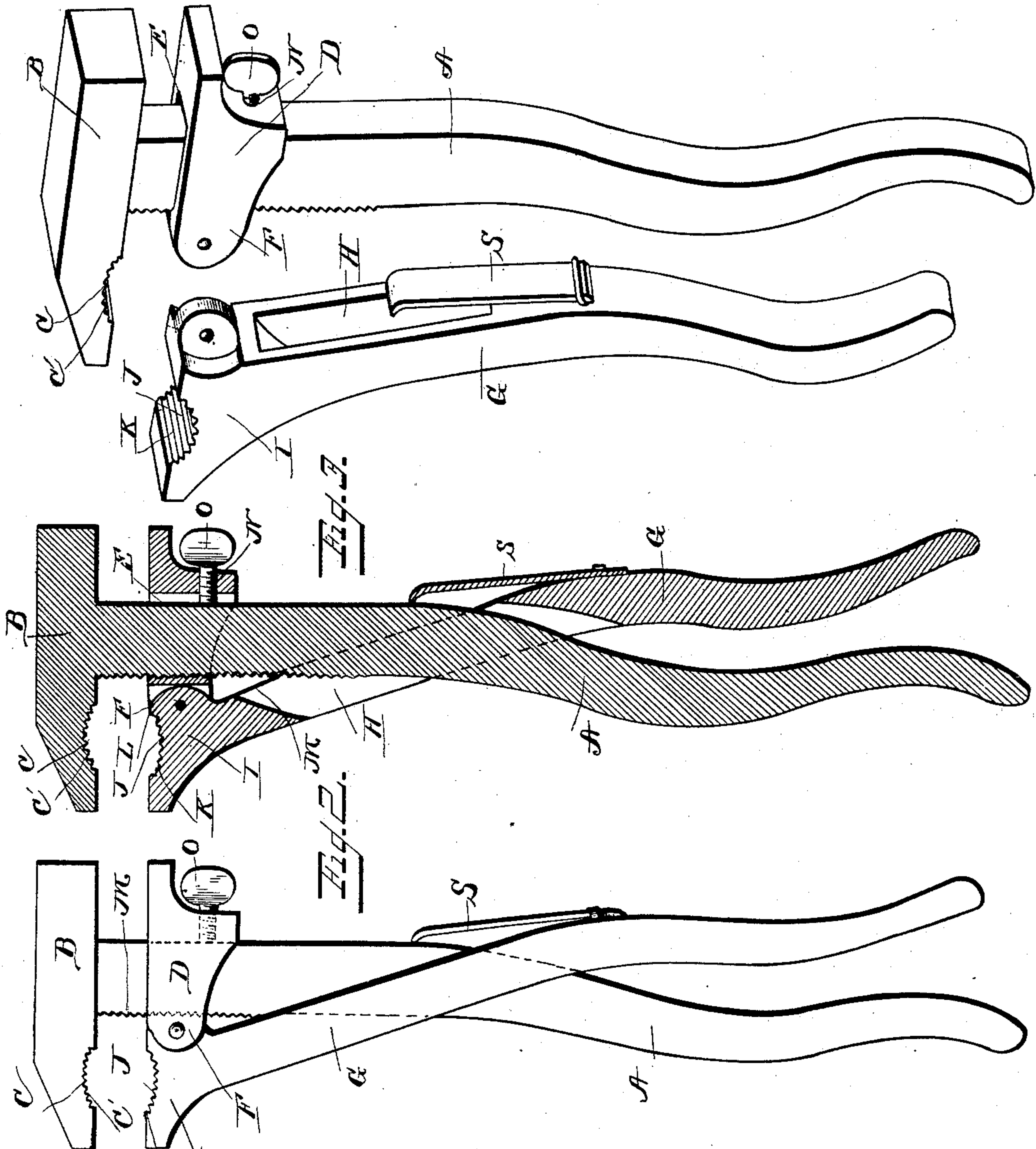
(No Model.)

C. E. MURRAY.

WRENCH.

No. 375,712.

Patented Dec. 27, 1887.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## WRENCH.

SPECIFICATION forming part of Letters Patent No. 375,712, dated December 27, 1887.

Application filed May 17, 1887. Serial No. 238,527. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. MURRAY, a citizen of the United States, and a resident of Fairfield, in the county of Rockbridge and State of Virginia, have invented certain new and useful Improvements in Pipe and Nut 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 view of my improved wrench, and Fig. 2 is a central longitudinal sectional view of the same. Fig. 3 is a detail view showing the stationary handle and the lever separated.

The same letters of reference indicate corresponding parts in all the figures.

My invention consists in a new and improved wrench, which is especially adapted for use as a pipe and tap wrench, and in which the stationary handle with its head can be withdrawn or separated from the lever and fulcrum-block and used as an ordinary hammer; and my invention will be hereinafter fully described and claimed.

Referring to the several parts by letter, A indicates the main or stationary handle of my improved wrench, which has rigidly secured to it at its upper end the head B, which is made in the shape of an ordinary hammer-head, except that the under side of its rear end is formed with a slightly-rounded recess, C, formed with the teeth or serrations C', for the purpose hereinafter described.

D indicates the sliding or adjustable fulcrum-block, which is formed with the central aperture or opening, E, through which the handle A passes, this slot or opening in the fulcrum-block D being of greater length than the width of the handle A, so as to permit of the fulcrum-block being adjusted on the handle A. That end of the fulcrum-block which I shall call its upper end is recessed centrally so as to form the parallel side lips, F F', and between these lips is pivoted the inner upper end of the lever G, which is formed with the long central slot, H, through which the handle A passes, as shown. The top of the head I of

this lever is formed with the curved depression or recess J, which is formed with the teeth or serrations K, the head I being of about the same length as the upper end of the head B, and the serrated recesses C and J registering, as shown. The upper end of the slot or opening E in the fulcrum-block is formed with the rack or series of teeth L, adapted to engage with the teeth of the rack, or the series of teeth M, formed on that, the upper side of the handle A, and the lower end of the fulcrum-block is extended out so that its outer end is in line with the outer end of the lower part or end of the head B of the handle A, the upper side of the lower end of the fulcrum-block being perfectly straight, so that the lower end or part of the head B and the fulcrum-block form an adjustable wrench for nuts or taps, in the manner of a monkey-wrench. Beneath this lower end of the lower part of the fulcrum-block is formed the screw-threaded aperture N, through which passes the thumb-screw O, the inner end of which passes through the lower side of the slot or opening E and bears against the lower side of the handle A when it is screwed in; and it will be seen that when the thumb-screw is screwed in the fulcrum-block will be drawn down, so that the teeth L, formed in the upper end of the slot E, will be drawn into engagement with the teeth M, formed on the upper side of the handle, and that the fulcrum-block will thus be locked or held firmly at the point to which it has been slid or adjusted on the handle A.

In operation, when the wrench is to be used as a pipe-wrench, the movable fulcrum-block D is slid up or down on the handle A, adjusted to the required point, the thumb screw O having been previously loosened or screwed out to permit of the fulcrum-block being thus adjusted; and when the said block has been moved to the desired point it is firmly secured in its adjusted position by tightening—screwing in—the thumb-nut O, which draws the teeth L into engagement with the teeth M at that point. The lower end of the lever G may then be opened from the handle A, so that the pipe can be readily grasped between the serrated jaws of the lever-head and that end of the main head B; and as the lever can be thus moved



on its fulcrum or pivotal point, it will be seen that the grip or tension can be loosened or tightened, so as to secure a new hold or grip on the pipe being operated upon without loosening the fulcrum-block D, which stands at the point to which it has once been adjusted until the work in hand has been completed. As soon as the grip of the hand around the handle of the lever and of the handle A is relaxed, the lower end of the lever is thrown out by a spring, S, which is secured at one end to the lower part—the handle—of the lever, and bears with its upper end against the under side of the handle A, the spring S thus relieving the pressure of the jaws of the wrench as soon as the grip of the hand is relaxed, thereby permitting the wrench to be slipped around the pipe or to be removed easily from the tap or nut to take a fresh grip, the outer ends of the lever-head and the upper part of the head B extending out straight to the same length or point, so that a nut or tap may be taken between the said ends beyond the serrated recesses which are used for gripping the pipe, the said ends thus serving for a convenient nut wrench, the jaw of the lever being swung open on its pivot as soon as the grip of the hand is relaxed, permitting a fresh hold to be taken on the nut, which can thus be very rapidly screwed on or off of its bolt, as will be clearly seen. Besides, the lower ends of the fulcrum-block and the head B form a nut or tap wrench, the fulcrum-block being capable of adjustment, as described, so as to take almost any size nut between the said jaws, this part of the wrench forming and operating in the same manner as an ordinary monkey-wrench.

The handle A may be drawn out of the fulcrum-block by first loosening the thumb-screw O, and the handle with its rigid head B may then be used as an ordinary hammer, the head

B being formed in the shape of an ordinary hammer-head, as shown.

By means of the pivoted spring actuated lever the head of the same and that end of the head B can be together used to hold small articles in the same manner as pinchers, this being a very convenient arrangement in picking up and holding small articles, such as bolts, nuts, and the like.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my invention will be readily understood. It will be seen that my improved wrench is simple and strong in construction, and convenient, rapid, and very efficient in its operation. It combines a pipe-wrench, a monkey-wrench, and a pivoted spring-actuated nut or tap wrench, and may also be used as a pair of pinchers in the manner described.

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

The combination, with the handle provided with the fixed head and having the series of teeth formed in its upper side, of the adjustable fulcrum-block formed with the opening having the serrated upper side, the threaded aperture, and the recessed upper end forming the side lips, the thumb-screw, the slotted lever having the inner end of its head pivoted between the said jaws, and the spring arranged as described, substantially as and for the purpose set forth.

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

CHARLES E. MURRAY.

Witnesses:

J. W. WADELY,  
JAMES STEELE.