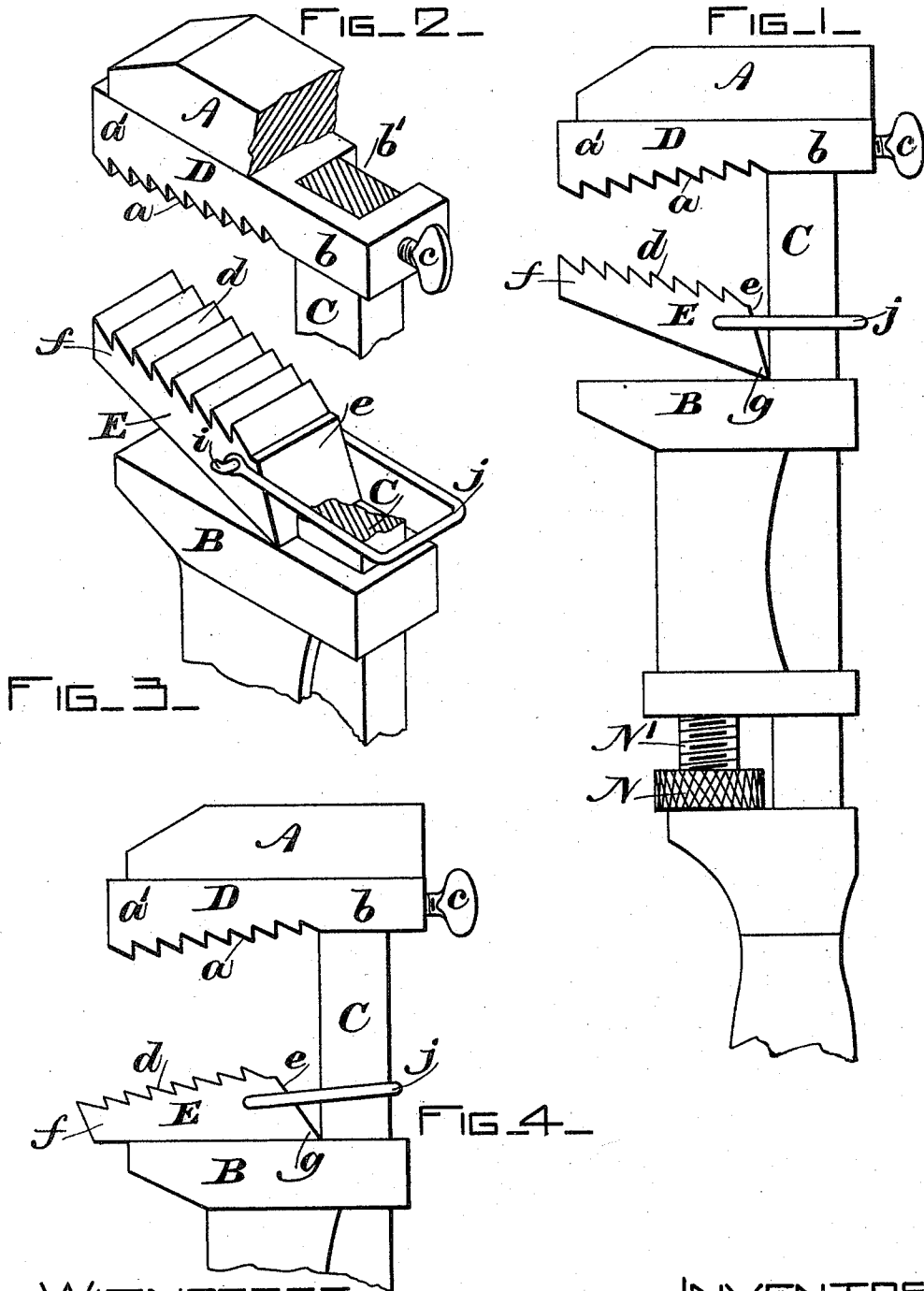


(No Model.)

E. C. NEAL.
WRENCH ATTACHMENT.

No. 585,329.

Patented June 29, 1897.



WITNESSES
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UNITED STATES PATENT OFFICE.

EDWARD COBB NEAL, OF LYNN, MASSACHUSETTS.

WRENCH ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 585,329, dated June 29, 1897.

Application filed November 19, 1896. Serial No. 612,765. (No model.)

To all whom it may concern:

Be it known that I, EDWARD COBB NEAL, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Wrench Attachments, of which the following, taken in connection with the accompanying drawings, is a specification.

The present invention relates to wrenches, and more particularly to such types of wrenches as are commonly termed "nut-wrenches" or "monkey-wrenches." As such wrenches are commonly constructed, owing to the form and arrangement of their gripping-jaws, they are unfitted to grip curved or cylindrical objects; and the object of the present invention is to provide simple and effective auxiliary jaws or gripping devices which may be readily and quickly placed in position to coöperate with the usual jaws of the nut or monkey wrench to adapt such wrench to firmly grip curved or cylindrical surfaces and thus perform the functions of the special wrenches used for such purposes, commonly termed "pipe-wrenches."

To the above end the present invention consists of the form and arrangement of the auxiliary jaws or gripping devices, as hereinafter more particularly described in this specification, and pointed out in the claims.

The present invention is illustrated in the drawings herewith submitted, in which—

Figure 1 is a side elevation of a wrench (portion of handle broken away) with my improved auxiliary jaws or gripping devices attached and shown in substantially their normal position. Fig. 2 is a perspective view of the upper jaw of the wrench and the upper auxiliary jaw, with parts broken away to show the method of mounting the auxiliary jaw. Fig. 3 is a perspective view of the lower jaw of the wrench and lower auxiliary jaw; and Fig. 4 is a side elevation of the head of the wrench, showing the auxiliary jaws in position to receive a pipe or other cylindrical object.

Like reference-letters indicate like parts in the several views.

My invention is shown in the drawings as applied to a common form of nut-wrench, usually termed a "monkey-wrench," which, as illustrated, is of the usual construction, comprising a fixed upper jaw A, secured to a shank

C, and a movable lower jaw B, movable with a parallel motion along the shank C toward and from the jaw A, the jaw B being actuated in the usual manner by the threaded bolt N' and its operating thumb-disk N.

The device above designated is well known in the art, and no further description thereof is deemed necessary herein.

The wrench above described is commonly used as a nut-wrench and, owing to the form and arrangement of its jaws, cannot firmly grip a pipe or other cylindrical or curved surface, for which purposes it is common to use another type of wrench, usually called a "pipe-wrench."

In accordance with the present invention as applied to the wrench of the drawings I have provided the auxiliary jaws or gripping devices D and E, which are located between the jaws A and B of the wrench and which when in position coöperate with the jaws A and B to adapt the wrench to firmly grip curved or cylindrical surfaces and to perform the usual function of a pipe-wrench. The jaws D and E are arranged to be adjusted upon and removed from the wrench when required. As shown in the drawings, the upper jaw D consists of a body portion *a'* and a shank portion *b*, the shank portion having an open recess *b'*, which is fitted to and receives the shank C of the wrench and which is provided with threaded bearings for a set-screw *c*, arranged to engage the shank C of the wrench and hold the jaw D from movement along the same. The upper surface of the jaw D is preferably flat and bears against the jaw A. The gripping-face of the jaw D is inclined gradually upward from its outer toward its inner end, and is provided with suitable serrations or gripping-teeth *a*.

The lower auxiliary jaw or gripping device E comprises a substantially edge-shaped block or body portion *f*, which is relatively thin at its outer end and gradually thickens toward its inner end, and which is mounted upon the wrench to have a limited swinging movement toward and from the jaw D.

As shown, the jaw E is provided with teeth *d* and is tapered off at its inner or thick end from the gripping-surface downwardly and backwardly, as shown at *e*, forming an edge or fulcrum *g*, on which the jaw E swings, and

which takes into the angle formed by the gripping-face of the main jaw B and the front of the shank C of the wrench.

As shown, the jaw E is normally elastically supported with its gripping-face oppositely inclined to the gripping-face of the jaw D (see Fig. 1) and its lower surface inclined to the upper surface of the jaw B and in contact therewith only along the edge or fulcrum *g*.
 15 The jaw E is capable of a swinging movement about the fulcrum *g*, as before stated, and may be depressed against the action of its elastic support until its lower surface rests upon the upper surface of the jaw B, (see Fig. 4,) in
 15 which position the gripping-faces of the jaws D and E are substantially parallel, and said jaws are then in position to receive a pipe or other cylindrical object of the greatest diameter, which they can receive without a change
 20 in the relative position of the jaws A and B.

As shown in the drawings, the jaw E is supported by an elastic yoke *j*, of rubber or other suitable elastic material, which surrounds the shank C of the wrench and is secured to the
 25 lugs *i* on the jaw E, the yoke *j* acting to swing the jaw E about its fulcrum *g* and maintain it in its normal position.

While I have shown a yoke *j* of elastic yielding material, it is evident that the same result might be secured by a suitably-placed
 30 metal spring and that said spring would be clearly an equivalent for the yoke *j*.

It will be noted that the teeth *a* and *d* are oppositely inclined, so as to take upon opposite
 35 sides of the pipe or other cylindrical object as the wrench is turned.

The operation of my invention is as follows: The jaws D and E being adjusted in position on the wrench between the jaws A and B by
 40 moving the jaw B, the jaws A and B are opened until the jaws D and E can be sufficiently separated to allow the pipe or other object to be turned to be inserted between the same and to be properly engaged by the jaw E, acted

upon by the elastic yoke *j*. The wrench is then turned in the usual manner and the teeth
 45 *a* engage the pipe upon one side and the teeth *d* substantially on the opposite side, and the force exerted on the teeth *d* as the wrench is turned tends to swing the jaw E about its ful-
 50 crum *g* toward the jaw D and thus close the jaws and cause the wrench to more firmly grip the pipe or other object to be turned.

While I have shown my invention as applied to a nut-wrench having one jaw movable toward the other, it is not limited to such use,
 55 as it is obvious that it is equally applicable to a wrench in which the nut-gripping faces are stationary.

Having thus described my invention and its mode of construction, I claim as novel and desire to secure by Letters Patent of the United
 60 States—

1. The combination with the jaw-support and main jaws, of a nut-wrench, of movable
 65 and stationary auxiliary jaws, said movable jaw comprising a substantially wedge-shape body portion having a serrated gripping-face and beveled at its thick end to form an edge
 70 which engages the angle between one of the main jaws and jaw-support, substantially as described.

2. The combination with the main jaws of a nut-wrench, of a swinging auxiliary jaw located between the main jaws, and an elastic
 75 support surrounding the shank of the wrench and acting to normally maintain the auxiliary jaw in an inclined position relatively to the main jaws, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of
 80 two subscribing witnesses, on this 2d day of November, A. D. 1896.

EDWARD COBB NEAL.

Witnesses:

PETER M. NEAL,
 WILLIAM E. NEAL.